

SEQUENCE LISTING

<110> Philip N. BENFEY
 Laura Di LAURENZIO
 Joanna WYSOCKA-DILLER
 Jocelyn E. MALAMY
 Leonard PYSH
 Yrjo HELARIUTTA
 Jun LIM

<120> Scarecrow Gene, Promoter and Uses Thereof

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<140> 09/265,585

<141> 1999-03-10

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TECH CENTER 1600/2800

Sub C11

C

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Asp Gln Asp Ser Ser Ser Ser Ser Ala Ser Pro Thr Val Trp Val Asp
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Ala Ile Ile Arg Asp Leu Ile His Ser Ser Thr Ser Val Ser Ile Pro
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Leu Gly Ala Leu Leu Glu Tyr Arg Leu Arg Ser Leu Met Leu Leu Asp
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Pro Ser Ser Ser Ser Asp Pro Ser Pro Gln Thr Phe Glu Pro Leu Tyr
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Gln Ile Ser Asn Asn Pro Ser Pro Pro Gln Gln Gln Gln Gln His Gln
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Gln Gln Gln Gln Gln His Lys Pro Pro Pro Pro Pro Ile Gln Gln Gln
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Thr Ala Thr Val Pro Ala Val Gln Thr Asn Thr Ala Glu Ala Leu Arg
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 385 390 395 400
 Val His Ile Ile Asp Leu Asp Ile Met Gln Gly Leu Gln Trp Pro Gly
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 Leu Phe His Ile Leu Ala Ser Arg Pro Gly Gly Pro Pro His Val Arg
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 Pro Leu Ala Glu Lys Val Gly Asn Leu Asp Thr Glu Arg Leu Asn Val
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 Arg Lys Arg Glu Ala Val Ala Val His Trp Leu Gln His Ser Leu Tyr
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 Ser Phe Leu Gly Arg Phe Val Glu Ala Ile His Tyr Tyr Ser Ala Leu
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 Phe Asp Ser Leu Gly Ala Ser Tyr Gly Glu Glu Ser Glu Glu Arg His
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His Gly Ala Ala Leu Phe Cys Thr Glu Val Glu Ile Glu Lys Leu Gly
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Glu	Ile	Lys	Asn	Ile	Ile	Ser	Cys	Glu	Gly	Phe	Glu	Arg	Arg	Glu	Arg	245	250	255	
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 Leu Gln Gly Cys Gly Phe Asp Gly Tyr Arg Ile Lys Glu Glu Ser Gly
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Cys	Pro	Cys	Phe	Lys	Phe	Gly	Phe	Leu	Ala	Ala	Asn	Gly	Ala	Ile	Leu	65	70	75	80
Glu	Ala	Ile	Lys	Gly	Glu	Glu	Glu	Val	His	Ile	Ile	Asp	Phe	Asp	Ile	85	90	95	
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Ser	Val	Gln	Arg	Ser	Ile	Gly	Gly	Leu	Arg	Ile	Ile	Asn	Leu	Arg	Leu	130	135	140	
Glu	Gln	Leu	Ala	Glu	Asp	Asn	Gly	Val	Ser	Phe	Lys	Phe	Lys	Ala	Met	145	150	155	160
Pro	Ser	Lys	Thr	Ser	Ile	Val	Ser	Pro	Ser	Thr	Leu	Gly	Cys	Lys	Pro	165	170	175	
Gly	Glu	Thr	Leu	Ile	Val	Asn	Phe	Ala	Phe	Gln	Leu	His	His	Met	Pro	180	185	190	
Asp	Glu	Ser	Val	Thr	Thr	Val	Asn	Gln	Arg	Asp	Glu	Leu	Leu	His	Met	195	200	205	
Val	Lys	Ser	Leu	Asn	Pro	Leu	Val	Thr	Val	Val	Glu	Gln	Asp	Val	Asn				

210		215		220
Thr Asn Thr Ser Pro Phe Phe Pro Arg Phe Ile Glu Ala Tyr Glu Tyr				
225		230		235 240
Tyr Ser Ala Val Phe Glu Ser Leu Asp Met Thr Leu Pro Arg Glu Ser				
	245		250	255
Gln Glu Arg Met Asn Val Glu Arg Gln Cys Leu Ala Arg Asp Ile Val				
	260		265	270
Asn Ile Val Ala Cys Glu Gly Glu Glu Arg Ile Glu Arg Tyr Glu Ala				
	275		280	285
Ala Gly Lys Trp Arg Ala Arg Met Met Met Ala Gly Phe Asn Pro Lys				
	290		295	300
Pro Met Ser Ala Lys Val Thr Asn Asn Ile Gln Asn Leu Ile Lys Gln				
305		310		315 320
Gln Tyr Cys Asn Lys Tyr Lys Leu Lys Glu Glu Met Gly Glu Leu His				
	325		330	335
Phe Cys Trp Glu Glu Lys Ser Leu Ile Val Ala Ser Ala Trp Arg				
	340		345	350

<210> 24
 <211> 100
 <212> DNA
 <213> Zea mays

<400> 24

ccaggaggcg ttcgagcggg aggagcgtgt gcacatcatc gacctcgaca tcatgcaggg 60

gctgcagtgg ccgggcctcc tccacatcct tgccctccgc 100

<210> 25
 <211> 33
 <212> PRT
 <213> Zea mays

<400> 25

Gln Glu Ala Phe Glu Arg Glu Glu Arg Val His Ile Ile Asp Leu Asp
1 5 10 15

Ile Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser
20 25 30

Arg

<210> 26
 <211> 1094
 <212> DNA
 <213> Zea mays

<400> 26

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ccacgcgtcc gtcaaaggat acaacccatgt acacataatt gacttttccc tgatgcaagg      60
tctccagtgg ccggcactca tggatgtctt ctccgcccgt gaggggtgggc caccaaagct      120
ccgaatcaca ggcattggcc cgaacccaat aggtggccgt gacgagctcc atgaagtggg      180
aattcgcttc gccaaagtatg cacactcggt gggatatcgac ttcactttcc agggagtctg      240
tgtcgatcaa cttgataggt tgtgcgactg gatgcttctc aaaccaatca aaggagaggc      300
agttgccata aactccatcc tacaactcca tcgcctcctc gttgaccag atgcaaacc      360
agtggtgccc gcaccaatag atatcctcct caaattgggtc atcaagataa accccatgat      420
cttcacggtg gttgagcatg aggcagatca caacagacca ccactactag agaggttcac      480
taatgccttc ttccactatg cgaccatgtt tgactctttg gagggccatgc atcgttgtac      540
cagtggtaga gacatcacccg actcactcac agagggtgtac cttcgagggtg agatttttga      600
cattgtctgc ggcgagggca gtgcacgcac cgaacgtcat gagttgtttg gtcactggag      660
ggagaggctc acctatgctg ggctaactca agtgtgggtc gaccccgatg aggttgacac      720
gctaaaagac cagttgatcc atgtgacatc cttatctggc tctgggttca acatcctagt      780
gtgtgatggc agccttgcac tagcgtggca taatcgcccg ttatatgtgg caacagcttg      840
gtgtgtgaca ggaggaaatg ctgccagttc catggttggc aacatctgta agggtacaaa      900
tgatagtaga agaaaggaaa accgtaatgg acccatggag tagcaggaag aataaccatg      960
tcatgagcaa atcgatcaag taataaaatg cactgatgac atgcatgggtg atctaaagtt     1020
tttttgctg aatgtgcaat gacgaattgt tcaatttgaa taacctaatc atgagactca     1080
aaaaaaaaaa aaaa                                                                1094

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<210> 27

<211> 313

<212> PRT

<213> Zea mays

<400> 27

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His Ala Ser Val Lys Gly Tyr Asn His Val His Ile Ile Asp Phe Ser
 1              5              10             15
Leu Met Gln Gly Leu Gln Trp Pro Ala Leu Met Asp Val Phe Ser Ala
          20              25             30
Arg Glu Gly Gly Pro Pro Lys Leu Arg Ile Thr Gly Ile Gly Pro Asn
      35              40             45

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Pro Ile Gly Gly Arg Asp Glu Leu His Glu Val Gly Ile Arg Leu Ala
 50 55 60
 Lys Tyr Ala His Ser Val Gly Ile Asp Phe Thr Phe Gln Gly Val Cys
 65 70 75 80
 Val Asp Gln Leu Asp Arg Leu Cys Asp Trp Met Leu Leu Lys Pro Ile
 85 90 95
 Lys Gly Glu Ala Val Ala Ile Asn Ser Ile Leu Gln Leu His Arg Leu
 100 105 110
 Leu Val Asp Pro Asp Ala Asn Pro Val Val Pro Ala Pro Ile Asp Ile
 115 120 125
 Leu Leu Lys Leu Val Ile Lys Ile Asn Pro Met Ile Phe Thr Val Val
 130 135 140
 Glu His Glu Ala Asp His Asn Arg Pro Pro Leu Leu Glu Arg Phe Thr
 145 150 155 160
 Asn Ala Leu Phe His Tyr Ala Thr Met Phe Asp Ser Leu Glu Ala Met
 165 170 175
 His Arg Cys Thr Ser Gly Arg Asp Ile Thr Asp Ser Leu Thr Glu Val
 180 185 190
 Tyr Leu Arg Gly Glu Ile Phe Asp Ile Val Cys Gly Glu Gly Ser Ala
 195 200 205
 Arg Thr Glu Arg His Glu Leu Phe Gly His Trp Arg Glu Arg Leu Thr
 210 215 220
 Tyr Ala Gly Leu Thr Gln Val Trp Phe Asp Pro Asp Glu Val Asp Thr
 225 230 235 240
 Leu Lys Asp Gln Leu Ile His Val Thr Ser Leu Ser Gly Ser Gly Phe
 245 250 255
 Asn Ile Leu Val Cys Asp Gly Ser Leu Ala Leu Ala Trp His Asn Arg
 260 265 270
 Pro Leu Tyr Val Ala Thr Ala Trp Cys Val Thr Gly Gly Asn Ala Ala
 275 280 285
 Ser Ser Met Val Gly Asn Ile Cys Lys Gly Thr Asn Asp Ser Arg Arg
 290 295 300
 Lys Glu Asn Arg Asn Gly Pro Met Glu
 305 310

<210> 28
 <211> 611
 <212> DNA
 <213> Oryza sativa

<400> 28

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cccaacttgg gaagcccttc ctccgctccg cctcctacct caaggaggcc ctccctctcg      60
cactcgccga cagccaccat ggctcctccg gcgtcacctc gccgctcgac gttgccctca      120
agcttgcagc atacaagtct ttctctgacc tgtcacctgt gctccagttc actaacttta      180
ccgcaacaag gcgcttcttg atgagattgg tggcatggca acttcctgca tccatgtcat      240
tgactttgat ctcggtgttg gtggtcagtg ggcttccttc ttgcaggagc ttgccaccg      300
ccggggagct ggaggtatgg ccttgccggtt gttgaagctc acggctttca tgcgactgc      360
ttctcaccat ccactggagc tgcaccttac ccaggataac ctctctcagt ttgccgcaga      420
gctcagaatt cctttcgaat tcaatgccgt cagtcttgat gcattcaatc ctgcggaatc      480
tattttctcc tctggatgag aagttgttgc tgttagcctc cctggttggt gctctgctcg      540
tgcaccaccg ctgccagcga ttcttcgggt ggtgaaacag ctttgtccta aggttgtcgt      600
ggctattgat c                                                                611
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<210> 29

<211> 502

<212> DNA

<213> *Oryza sativa*

<400> 29

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tttttttttt tttttttttt tttttttttt tacagagcaa cagcagtata atattaattc      60
tgtaccacac aaccatttga taggttaaata taccctctag tctctactca taagcagtgt      120
ttccaatgag atgatcatgg ctaattgagc agagcatggc aacaacctaa agcaacatca      180
ttagctatag agactgacac caatattcct aaatccacta ggctagctaa taagctgcaa      240
cgaaaagcaa tatgaagagt tcaacagctc aagacaacaa tttcatttgc aacatttaata      300
tgcaagaata aatggacatt actggagtgg tcgatgcttg caaacgggtg tggaaccttg      360
gtggagtga gcttatggct gatcagcacc gccaaagtga tatggataca agctccccac      420
gctgccagta gagcgtaaga gcagctccgc gtttctccac atggaatcct cggacctgca      480
cccgttcag gaggcagtct gc                                                                502
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<210> 30

<211> 298

<212> PRT

<213> *Arabidopsis thaliana*

<400> 30

Pro Gln Gln Gln Gln Gln His Gln Gln Gln Gln Gln His Lys Pro
 1 5 10 15
 Pro Pro Pro Pro Ile Gln Gln Gln Glu Arg Glu Asn Ser Ser Thr Asp
 20 25 30
 Ala Pro Pro Gln Pro Glu Thr Val Thr Ala Thr Val Pro Ala Val Gln
 35 40 45
 Thr Asn Thr Ala Glu Ala Leu Arg Glu Arg Lys Glu Glu Ile Lys Arg
 50 55 60
 Gln Lys Gln Asp Glu Glu Gly Leu His Leu Leu Thr Leu Leu Leu Gln
 65 70 75 80
 Cys Ala Glu Ala Val Ser Ala Asp Asn Leu Glu Glu Ala Asn Lys Leu
 85 90 95
 Leu Leu Glu Ile Ser Gln Leu Ser Thr Pro Tyr Gly Thr Ser Ala Gln
 100 105 110
 Arg Val Ala Ala Tyr Phe Ser Glu Ala Met Ser Ala Arg Leu Leu Asn
 115 120 125
 Ser Cys Leu Gly Ile Tyr Ala Ala Leu Pro Ser Arg Trp Met Pro Gln
 130 135 140
 Thr His Ser Leu Lys Met Val Ser Ala Phe Gln Val Phe Asn Gly Ile
 145 150 155 160
 Ser Pro Leu Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala Ile Gln
 165 170 175
 Glu Ala Phe Glu Lys Glu Asp Ser Val His Ile Ile Asp Leu Asp Ile
 180 185 190
 Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser Arg
 195 200 205
 Pro Gly Gly Pro Pro His Val Arg Leu Thr Gly Leu Gly Thr Ser Met
 210 215 220
 Glu Ala Leu Gln Ala Thr Gly Lys Arg Leu Ser Asp Phe Thr Asp Lys
 225 230 235 240
 Leu Gly Leu Pro Phe Glu Phe Cys Pro Leu Ala Glu Lys Val Gly Asn
 245 250 255
 Asp Leu Thr Glu Arg Leu Asn Val Arg Lys Arg Glu Ala Ala Val His
 260 265 270
 Trp Leu Gln His Ser Leu Tyr Asp Val Thr Gly Ser Asp Ala His Thr
 275 280 285
 Leu Trp Leu Leu Gln Arg Leu Ala Pro Lys
 290 295

<210> 31
 <211> 307
 <212> PRT
 <213> Arabidopsis thaliana

 <220>
 <221> SITE
 <222> 1...307
 <223> Xaa=unknown amino acid

<400> 31

Gly	Thr	Ser	Pro	Thr	Gly	Pro	Glu	Leu	Leu	Thr	Tyr	Met	His	Ile	Leu	1	5	10	15
Tyr	Glu	Ala	Cys	Pro	Tyr	Phe	Lys	Phe	Gly	Tyr	Glu	Ser	Ala	Asn	Gly	20	25	30	
Ala	Ile	Ala	Glu	Ala	Val	Lys	Asn	Glu	Ser	Phe	Val	His	Ile	Ile	Asp	35	40	45	
Phe	Gln	Ile	Ser	Gln	Gly	Gly	Gln	Trp	Val	Ser	Leu	Ile	Arg	Ala	Leu	50	55	60	
Gly	Ala	Arg	Pro	Gly	Gly	Pro	Pro	Asn	Val	Arg	Ile	Thr	Gly	Ile	Asp	65	70	75	80
Asp	Pro	Arg	Ser	Ser	Phe	Ala	Arg	Gln	Gly	Gly	Leu	Glu	Leu	Val	Gly	85	90	95	
Gln	Arg	Leu	Gly	Lys	Leu	Ala	Glu	Met	Cys	Gly	Val	Pro	Phe	Glu	Phe	100	105	110	
His	Gly	Ala	Ala	Leu	Cys	Cys	Thr	Glu	Val	Glu	Ile	Glu	Lys	Leu	Gly	115	120	125	
Val	Arg	Asn	Gly	Glu	Ala	Leu	Ala	Val	Asn	Phe	Pro	Leu	Val	Leu	His	130	135	140	
His	Met	Pro	Asp	Glu	Ser	Val	Thr	Val	Glu	Asn	His	Arg	Asp	Arg	Leu	145	150	155	160
Leu	Arg	Leu	Val	Lys	His	Leu	Ser	Pro	Asn	Val	Val	Thr	Leu	Val	Glu	165	170	175	
Gln	Glu	Ala	Asn	Thr	Asn	Thr	Ala	Pro	Phe	Leu	Pro	Arg	Phe	Val	Glu	180	185	190	
Thr	Met	Asn	His	Tyr	Leu	Ala	Val	Phe	Glu	Ser	Ile	Asp	Val	Lys	Leu	195	200	205	
Ala	Arg	Asp	His	Lys	Glu	Arg	Ile	Asn	Val	Glu	Gln	His	Cys	Leu	Ala	210	215	220	
Arg	Glu	Val	Val	Asn	Leu	Ile	Ala	Cys	Glu	Gly	Val	Glu	Arg	Glu	Glu	225	230	235	240

Pro Ser Lys Thr Ser Ile Val Ser Pro Ser Thr Leu Gly Cys Lys Pro
 165 170 175
 Gly Glu Thr Leu Ile Val Asn Phe Ala Phe Gln Leu His His Met Pro
 180 185 190
 Asp Glu Ser Val Thr Thr Val Asn Gln Arg Asp Glu Leu Leu His Met
 195 200 205
 Val Lys Ser Leu Asn Pro Lys Leu Val Thr Val Val Glu Gln Asp Val
 210 215 220
 Asn Thr Asn Thr Ser Pro Phe Phe Pro Arg Phe Ile Glu Ala Tyr Glu
 225 230 235 240
 Tyr Tyr Ser Ala Val Phe Glu Ser Leu Asp Met Thr Leu Pro Arg Glu
 245 250 255
 Ser Gln Glu Arg Met Asn Val Glu Arg Gln Cys Leu Ala Arg Asp Ile
 260 265 270
 Val Asn Ile Val Ala Cys Glu Gly Glu Glu Arg Ile Glu Arg Tyr Glu
 275 280 285
 Ala Ala Gly Lys Trp Arg Ala Arg Met Met Met Ala Gly Phe Asn Pro
 290 295 300
 Lys Pro Met Ser Ala Lys Val Thr Asn Asn Ile Gln Asn Leu Ile Lys
 305 310 315 320
 Gln Gln Tyr Cys Asn Lys Tyr Lys Leu Lys Glu Glu Met Gly Glu Leu
 325 330 335
 His Phe Cys Trp Glu Glu Lys Ser Leu Ile Val Ala Ser Ala Trp Arg
 340 345 350

Xaa

<210> 33
 <211> 326
 <212> PRT
 <213> Arabidopsis thaliana
 <220>
 <221> SITE
 <222> 1...326
 <223> Xaa=unknown amino acid
 <400> 33

Ala Met Glu Gly Glu Lys Met Val His Val Ile Asp Leu Asp Ala Ser
 1 5 10 15
 Glu Pro Ala Gln Trp Leu Ala Leu Leu Gln Ala Phe Asn Ser Arg Pro
 20 25 30
 Glu Gly Pro Pro His Leu Arg Ile Thr Gly Val His His Gln Lys Glu

35					40					45					
Val	Leu	Glu	Gln	Met	Ala	His	Arg	Leu	Ile	Glu	Glu	Ala	Glu	Lys	Leu
50						55					60				
Asp	Ile	Pro	Phe	Gln	Phe	Asn	Pro	Val	Val	Ser	Arg	Leu	Asp	Cys	Leu
65					70					75				80	
Asn	Val	Glu	Gln	Leu	Arg	Val	Lys	Thr	Gly	Glu	Ala	Leu	Ala	Val	Ser
				85					90					95	
Ser	Val	Leu	Gln	Leu	His	Thr	Phe	Leu	Ala	Ser	Asp	Asp	Asp	Leu	Met
			100					105					110		
Arg	Lys	Asn	Cys	Ala	Leu	Arg	Phe	Gln	Asn	Asn	Pro	Ser	Gly	Val	Asp
		115					120					125			
Leu	Gln	Arg	Val	Leu	Met	Met	Ser	His	Gly	Ser	Ala	Ala	Glu	Ala	Arg
130						135					140				
Glu	Asn	Asp	Met	Ser	Asn	Asn	Asn	Gly	Tyr	Ser	Pro	Ser	Gly	Asp	Ser
145					150					155				160	
Ala	Ser	Ser	Leu	Pro	Leu	Pro	Ser	Ser	Gly	Arg	Thr	Asp	Ser	Phe	Leu
				165					170					175	
Asn	Ala	Ile	Trp	Gly	Leu	Ser	Pro	Lys	Val	Met	Val	Val	Thr	Glu	Gln
			180					185					190		
Asp	Ser	Asp	His	Asn	Gly	Ser	Thr	Leu	Met	Glu	Arg	Leu	Leu	Glu	Ser
		195					200					205			
Leu	Tyr	Thr	Tyr	Ala	Ala	Leu	Phe	Asp	Cys	Leu	Glu	Thr	Lys	Val	Pro
210					215					220					
Arg	Thr	Ser	Gln	Asp	Arg	Ile	Lys	Val	Glu	Lys	Met	Leu	Phe	Gly	Glu
225					230					235				240	
Glu	Ile	Lys	Asn	Ile	Ile	Ser	Cys	Glu	Gly	Phe	Glu	Arg	Arg	Glu	Arg
			245						250					255	
His	Glu	Lys	Leu	Glu	Lys	Trp	Ser	Gln	Arg	Ile	Asp	Leu	Ala	Gly	Phe
			260					265					270		
Gly	Asn	Val	Pro	Leu	Ser	Tyr	Tyr	Ala	Met	Leu	Gln	Ala	Arg	Arg	Leu
		275				280						285			
Leu	Gln	Gly	Cys	Gly	Phe	Asp	Gly	Tyr	Arg	Ile	Lys	Glu	Glu	Ser	Gly
290					295					300					
Cys	Ala	Val	Ile	Cys	Trp	Gln	Asp	Arg	Pro	Leu	Tyr	Ser	Val	Ser	Ala
305					310					315				320	
Trp	Arg	Cys	Arg	Lys	Xaa										
				325											

<210> 34
 <211> 277
 <212> PRT

<213> Arabidopsis thaliana

<220>

<221> SITE

<222> 1...277

<223> Xaa=unknown amino acid

<400> 34

Asn	Lys	Arg	Leu	Lys	Ser	Cys	Ser	Ser	Pro	Asp	Ser	Met	Val	Thr	Ser	
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Thr	Ser	Thr	Gly	Thr	Gln	Ile	Gly	Gly	Val	Ile	Gly	Thr	Thr	Val	Thr	
			20					25						30		
Thr	Thr	Thr	Thr	Thr	Thr	Thr	Ala	Ala	Ala	Glu	Ser	Thr	Arg	Ser	Val	
			35				40					45				
Ile	Leu	Val	Asp	Ser	Gln	Glu	Asn	Gly	Val	Arg	Leu	Val	His	Ala	Leu	
	50					55					60					
Met	Ala	Cys	Ala	Glu	Ala	Ile	Gln	Gln	Asn	Asn	Leu	Thr	Leu	Ala	Glu	
65					70					75					80	
Ala	Leu	Val	Lys	Gln	Ile	Gly	Cys	Leu	Ala	Val	Ser	Gln	Ala	Gly	Ala	
				85					90					95		
Met	Arg	Lys	Val	Ala	Thr	Tyr	Phe	Ala	Glu	Ala	Leu	Ala	Arg	Arg	Ile	
			100					105					110			
Tyr	Arg	Leu	Ser	Pro	Pro	Gln	Asn	Gln	Ile	Asp	His	Cys	Leu	Ser	Asp	
		115					120					125				
Thr	Leu	Gln	Met	His	Phe	Tyr	Glu	Thr	Cys	Pro	Tyr	Leu	Lys	Phe	Ala	
	130					135					140					
His	Phe	Thr	Ala	Asn	Gln	Ala	Ile	Leu	Glu	Ala	Phe	Glu	Gly	Lys	Lys	
145					150					155					160	
Arg	Val	His	Val	Ile	Asp	Phe	Ser	Met	Asn	Gln	Gly	Leu	Gln	Trp	Pro	
				165					170					175		
Ala	Leu	Met	Gln	Ala	Leu	Ala	Leu	Arg	Glu	Gly	Gly	Pro	Pro	Thr	Phe	
			180					185						190		
Arg	Leu	Thr	Gly	Ile	Gly	Pro	Pro	Ala	Pro	Asp	Asn	Ser	Asp	His	Leu	
		195				200						205				
His	Glu	Val	Gly	Cys	Lys	Leu	Ala	Gln	Leu	Ala	Glu	Ala	Ile	His	Val	
	210					215					220					
Glu	Phe	Glu	Tyr	Arg	Gly	Phe	Val	Ala	Asn	Ser	Leu	Ala	Asp	Leu	Asp	
225					230					235				240		
Ala	Ser	Met	Leu	Glu	Leu	Arg	Pro	Ser	Asp	Thr	Glu	Ala	Val	Ala	Val	
				245					250					255		
Asn	Ser	Val	Phe	Glu	Leu	His	Lys	Leu	Leu	Gly	Arg	Xaa	Gly	Gly	Ile	
			260					265						270		

Glu Lys Val Leu Gly
275

<210> 35
<211> 262
<212> PRT
<213> Arabidopsis thaliana

<400> 35

Gly	Gly	Gly	Gly	Asp	Thr	Tyr	Thr	Thr	Asn	Lys	Arg	Leu	Lys	Cys	Ser	
1				5					10					15		
Asn	Gly	Val	Val	Glu	Thr	Thr	Thr	Ala	Thr	Ala	Glu	Ser	Thr	Arg	His	
			20					25					30			
Val	Val	Leu	Val	Asp	Ser	Gln	Glu	Asn	Gly	Val	Arg	Leu	Val	His	Ala	
		35					40					45				
Leu	Leu	Ala	Cys	Ala	Glu	Ala	Val	Gln	Lys	Glu	Asn	Leu	Thr	Val	Ala	
	50					55					60					
Glu	Ala	Leu	Val	Lys	Gln	Ile	Gly	Phe	Leu	Ala	Val	Ser	Gln	Ile	Gly	
65					70					75					80	
Ala	Met	Arg	Gln	Val	Ala	Thr	Tyr	Phe	Ala	Glu	Ala	Leu	Ala	Arg	Arg	
			85						90					95		
Ile	Tyr	Arg	Leu	Ser	Pro	Ser	Gln	Ser	Pro	Ile	Asp	His	Ser	Leu	Ser	
			100					105					110			
Asp	Thr	Leu	Gln	Met	His	Phe	Tyr	Glu	Thr	Cys	Pro	Tyr	Leu	Lys	Phe	
		115					120					125				
Ala	His	Phe	Thr	Ala	Asn	Gln	Ala	Ile	Leu	Glu	Ala	Phe	Gln	Gly	Lys	
	130					135					140					
Lys	Arg	Val	His	Val	Ile	Asp	Phe	Ser	Met	Ser	Gln	Gly	Leu	Gln	Trp	
145					150					155					160	
Pro	Ala	Leu	Met	Gln	Ala	Leu	Ala	Leu	Arg	Pro	Gly	Gly	Pro	Pro	Val	
			165						170					175		
Phe	Arg	Leu	Thr	Gly	Ile	Gly	Pro	Pro	Ala	Pro	Asp	Asn	Phe	Asp	Tyr	
		180						185					190			
Leu	His	Glu	Val	Gly	Cys	Lys	Leu	Ala	His	Leu	Ala	Glu	Ala	Ile	His	
	195						200					205				
Val	Glu	Phe	Glu	Tyr	Arg	Gly	Phe	Val	Ala	Asn	Thr	Leu	Ala	Asp	Leu	
	210					215					220					
Asp	Ala	Ser	Met	Leu	Glu	Leu	Arg	Pro	Ser	Glu	Ile	Glu	Ser	Val	Ala	
225					230					235					240	
Val	Asn	Ser	Val	Phe	Glu	Leu	His	Lys	Leu	Leu	Gly	Arg	Pro	Gly	Ala	
				245					250					255		

Ile Asp Lys Val Leu Gly
260

<210> 36

<211> 203

<212> PRT

<213> Oryza sativa

<400> 36

Gln Leu Gly Lys Pro Phe Leu Arg Ser Ala Ser Tyr Leu Lys Glu Ala
1 5 10 15

Leu Leu Leu Ala Leu Ala Asp Ser His His Gly Ser Ser Gly Val Thr
20 25 30

Ser Pro Leu Asp Val Ala Leu Lys Leu Ala Ala Tyr Lys Ser Phe Ser
35 40 45

Asp Leu Ser Pro Val Leu Gln Phe Thr Asn Phe Thr Ala Asn Lys Ala
50 55 60

Leu Leu Asp Glu Ile Gly Gly Met Ala Thr Ser Cys Ile His Val Ile
65 70 75 80

Asp Phe Asn Leu Gly Val Gly Gly Gln Trp Ala Ser Phe Leu Gln Glu
85 90 95

Leu Ala His Arg Arg Gly Ala Gly Gly Met Ala Leu Pro Leu Leu Lys
100 105 110

Leu Thr Ala Phe Met Ser Thr Ala Ser His His Pro Leu Glu Leu His
115 120 125

Leu Thr Gln Asp Asn Leu Ser Gln Phe Ala Ala Glu Leu Arg Ile Pro
130 135 140

Phe Glu Phe Asn Ala Val Ser Leu Asp Ala Phe Asn Pro Ala Glu Ser
145 150 155 160

Ile Ser Ser Ser Gly Asp Glu Val Val Ala Val Ser Leu Pro Val Gly
165 170 175

Cys Ser Ala Arg Ala Pro Pro Leu Pro Ala Ile Leu Arg Leu Val Lys
180 185 190

Gln Leu Cys Pro Lys Val Val Val Ala Ile Asp
195 200

<210> 37

<211> 131

<212> PRT

<213> Zea mays

<400> 37

His Ala Ser Val Lys Gly Tyr Asn His Val His Ile Ile Asp Phe Ser
 1 5 10 15

Leu Met Gln Gly Leu Gln Trp Pro Ala Leu Met Asp Val Phe Ser Ala
 20 25 30

Arg Glu Gly Gly Pro Pro Lys Leu Arg Ile Thr Gly Ile Gly Pro Asn
 35 40 45

Pro Ile Gly Gly Arg Asp Glu Leu His Glu Val Gly Ile Arg Leu Ala
 50 55 60

Lys Tyr Ala His Ser Val Gly Ile Asp Phe Thr Phe Gln Gly Val Cys
 65 70 75 80

Val Asp Gln Leu Asp Arg Leu Cys Asp Trp Met Leu Leu Lys Pro Ile
 85 90 95

Lys Gly Glu Ala Val Ala Ile Asn Ser Ile Leu Gln Leu His Arg Leu
 100 105 110

Leu Val Asp Pro Asp Ala Asn Pro Val Val Pro Ala Pro Ile Asp Ile
 115 120 125

Leu Leu Lys
 130

<210> 38
 <211> 33
 <212> PRT
 <213> Zea mays

<400> 38

Gln Glu Ala Phe Glu Arg Glu Glu Arg Val His Ile Ile Asp Leu Asp
 1 5 10 15

Ile Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser
 20 25 30

Arg

<210> 39
 <211> 29
 <212> PRT
 <213> Zea mays

<220>
 <221> SITE
 <222> 1...29
 <223> Xaa=unknown amino acid

<400> 39

Phe Ala Gly Cys Arg Arg Val His Val Val Asp Phe Gly Ile Lys Gln

1 5 10 15
 Gly Met Gln Trp Pro Ala Leu Leu Xaa Asp Leu Ala Leu
 20 25

 <210> 40
 <211> 73
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> SITE
 <222> 1...73
 <223> Xaa=unknown amino acid

 <400> 40

 Gly Arg Asn Gly Arg Thr Leu Trp Leu Gly Glu Gly His Ile Asp Leu
 1 5 10 15

 Trp Pro Leu Gln Gly Leu Leu Ser Gln Gly Leu Gln Arg Ala Leu Cys
 20 25 30

 Ala Arg Pro Leu Gly Ala Pro His Val Phe Leu Pro Gly Leu His Thr
 35 40 45

 Leu Ser Leu Gly Leu Gln Xaa Arg His Leu Leu Val His Met Met Ala
 50 55 60

 Leu Ser Tyr Ser Tyr Gly Arg Xaa Pro
 65 70

<210> 41
 <211> 59
 <212> PRT
 <213> Arabidopsis thaliana

<400> 41

 Thr Ser Asp Ser Ala Ser Ser Phe Asn Ile Pro Thr Ser Ala Gln Asn
 1 5 10 15

 His Tyr Ala Thr Gly Ser Phe Ser Thr Asn Ser Arg Thr Thr Asn Val
 20 25 30

 Ala Thr Ala Thr Thr Asn Ser Ala Thr Ala His Trp Val Ala Thr Asp
 35 40 45

 Ala Glu His Thr Asp Thr Ile Ile Ala Gln Pro
 50 55

<210> 42
 <211> 110
 <212> PRT
 <213> Brassica napus

<220>
 <221> SITE
 <222> 1...110
 <223> Xaa=unknown amino acid

<400> 42

Arg	Xaa	Phe	Asp	Ser	Leu	Glu	His	Asp	Ala	Ser	Lys	Gly	Glu	Pro	Arg
1				5					10					15	
Glu	Asp	Glu	Arg	Gly	Arg	Xaa	Cys	Leu	Ala	Arg	Asn	Ile	Val	Asn	Ile
			20					25					30		
Val	Xaa	Cys	Lys	Xaa	Glu	Glu	Arg	Ile	Glu	Arg	Tyr	Glu	Val	Thr	Gly
		35					40					45			
Lys	Trp	Arg	Ala	Arg	Met	Met	Met	Ala	Gly	Phe	Ser	Pro	Arg	Pro	Met
	50					55					60				
Ser	Gly	Arg	Val	Thr	Ser	Asn	Ile	Glu	Ser	Leu	Ile	Lys	Arg	Asp	Tyr
65					70					75				80	
Cys	Ser	Lys	Tyr	Lys	Val	Lys	Glu	Glu	Met	Gly	Glu	Leu	His	Phe	Ser
				85					90					95	
Trp	Glu	Glu	Lys	Ser	Leu	Ile	Val	Ala	Ser	Ala	Trp	Ser	Xaa		
			100					105					110		

<210> 43
 <211> 137
 <212> PRT
 <213> Oryza sativa

<220>
 <221> SITE
 <222> 1...137
 <223> Xaa=unknown amino acid

<400> 43

Asn	Gly	Ser	Tyr	Asn	Ala	Pro	Phe	Phe	Val	Thr	Arg	Phe	Arg	Glu	Ala
1				5					10					15	
Leu	Phe	His	Tyr	Ser	Ala	Ile	Phe	Asp	Met	Leu	Glu	Thr	Asn	Ile	Pro
			20					25					30		
Lys	Asp	Asn	Glu	Gln	Arg	Leu	Leu	Ile	Glu	Ser	Ala	Leu	Phe	Ser	Arg
		35					40					45			
Glu	Xaa	Asn	Val	Ile	Ser	Cys	Glu	Gly	Leu	Glu	Arg	Met	Glu	Arg	Pro
	50					55					60				
Glu	Thr	Tyr	Lys	Gln	Trp	Gln	Val	Arg	Asn	Gln	Arg	Val	Gly	Phe	Lys
65				70						75				80	
Gln	Leu	Pro	Leu	Asn	Gln	Asp	Met	Met	Lys	Arg	Ala	Arg	Xaa	Glu	Gly
				85					90					95	

Gln Val Leu Pro Thr Arg Thr Phe Ile Ile Asp Glu Asp Asn Arg Trp
100 105 110

Leu Leu Gln Gly Trp Lys Gly Arg Ile Leu Phe Ala Leu Ser Thr Trp
115 120 125

Lys Pro Asp Asn Arg Ser Ser Ser Xaa
130 135

<210> 44
<211> 41
<212> PRT
<213> Oryza sativa

<400> 44

Asn Gly Gly Ala Phe Ala Pro Ser Thr Trp Thr Ala Arg Ser Leu Asn
1 5 10 15

Gly Gly Ala Phe Ala Pro Ser Thr Trp Thr Ala Arg Ser Leu Pro Val
20 25 30

Pro Ser Ser Pro Ser Thr Asp Ser Phe
35 40

<210> 45
<211> 1279
<212> DNA
<213> Arabidopsis thaliana

<400> 45

gcggctatct tctacggcca ccaccaccat acacctccgc cggcaaagcg gctcaaccct 60

gggtcccgtgg ggataacaga gcagctgggt aaggcagcag aggtcataga gagcgacacg 120

tgtctagctc aggggatatt ggcgcggtc aatcaacagc tctcttctcc cgtcgggaag 180

ccattagaaa gagcagcttt ttacttcaaa gaagctctca ataatctcct tcacaacgtc 240

tcccaaacc taaaccctta ttccctcadc ttcaagatcg ctgcttacia atccttctca 300

gagatctctc ccgttcttca gttcgccaac ttacctcca accaagccct cttagagtcc 360

ttccatgggt tccaccgtct ccacatcadc gacttcgata tcggctacgg tggccaatgg 420

gcttccctca tgcaagagct tgttctccgc gacaacgccg ctctctctc cctcaagatc 480

accgttttctg cttctccggc gaaccaacgac cagctcgaac ttggcttcac tcaagacaac 540

ctcaagcact tcgcctctga gatcaacatc tcccttgaca tccaagtttt gagcttagac 600

ctcctcggtt ccatctcgtg gcctaactcg tcggagaaag aagctgtcgc cgtaaacatc 660

tccgcccgtt ccttctcgca cctccctttg gtctccgtt tcgtgaagca tctatctccg 720

acgatcatcg tctgctccga cagaggatgc gagaggacgg atctgccctt ctctcaacag 780
ctcgccact cgctgcactc acacaccgct ctcttcgaat cctcgcacgc cgtcaacgcc 840
aacctcgacg caatgcagaa gatcgagagg tttcttatac agccggagat agagaagctg 900
gtgttggatc gtagccgtcc gatagaaagg ccgatgatga cgtggcaagc gatgtttcta 960
cagatggggtt tctcaccggt gacgcacagt aacttcacgg agtctcaagc cgagtgttta 1020
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tgttggcaaa ggacagaact cgtcggagtt tcagcatgga gatgtcgctc ctcttgattt 1140
ccaccggagt ttcaattatt aaaaaaatat tttccttaat tcaatttatc ttaaattgaca 1200
aatttttagt ttctgatttt attttgc tca gtgcgatgga tttttaaatt taagtttcac 1260
acaaatatat aaatttttg 1279

<210> 46

<211> 379

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> SITE

<222> 1...379

<223> Xaa=unknown amino acid

<400> 46

Ala	Ala	Ile	Phe	Tyr	Gly	His	His	His	His	Thr	Pro	Pro	Pro	Ala	Lys
1				5					10					15	
Arg	Leu	Asn	Pro	Gly	Pro	Val	Gly	Ile	Thr	Glu	Gln	Leu	Val	Lys	Ala
		20					25					30			
Ala	Glu	Val	Ile	Glu	Ser	Asp	Thr	Cys	Leu	Ala	Gln	Gly	Ile	Leu	Ala
	35					40					45				
Arg	Leu	Asn	Gln	Gln	Leu	Ser	Ser	Pro	Val	Gly	Lys	Pro	Leu	Glu	Arg
	50				55						60				
Ala	Ala	Phe	Tyr	Phe	Lys	Glu	Ala	Leu	Asn	Asn	Leu	Leu	His	Asn	Val
65				70					75					80	
Ser	Gln	Thr	Leu	Asn	Pro	Tyr	Ser	Leu	Ile	Phe	Lys	Ile	Ala	Ala	Tyr
			85					90					95		
Lys	Ser	Phe	Ser	Glu	Ile	Ser	Pro	Val	Leu	Gln	Phe	Ala	Asn	Phe	Thr
		100						105					110		
Ser	Asn	Gln	Ala	Leu	Leu	Glu	Ser	Phe	His	Gly	Phe	His	Arg	Leu	His
	115					120						125			

Ile Ile Asp Phe Asp Ile Gly Tyr Gly Gly Gln Trp Ala Ser Leu Met
 130 135 140
 Gln Glu Leu Val Leu Arg Asp Asn Ala Ala Pro Leu Ser Leu Lys Ile
 145 150 155 160
 Thr Val Phe Ala Ser Pro Ala Asn His Asp Gln Leu Glu Leu Gly Phe
 165 170 175
 Thr Gln Asp Asn Leu Lys His Phe Ala Ser Glu Ile Asn Ile Ser Leu
 180 185 190
 Asp Ile Gln Val Leu Ser Leu Asp Leu Leu Gly Ser Ile Ser Trp Pro
 195 200 205
 Asn Ser Ser Glu Lys Glu Ala Val Ala Val Asn Ile Ser Ala Ala Ser
 210 215 220
 Phe Ser His Leu Pro Leu Val Leu Arg Phe Val Lys His Leu Ser Pro
 225 230 235 240
 Thr Ile Ile Val Cys Ser Asp Arg Gly Cys Glu Arg Thr Asp Leu Pro
 245 250 255
 Phe Ser Gln Gln Leu Ala His Ser Leu His Ser His Thr Ala Leu Phe
 260 265 270
 Glu Ser Leu Asp Ala Val Asn Ala Asn Leu Asp Ala Met Gln Lys Ile
 275 280 285
 Glu Arg Phe Leu Ile Gln Pro Glu Ile Glu Lys Leu Val Leu Asp Arg
 290 295 300
 Ser Arg Pro Ile Glu Arg Pro Met Met Thr Trp Gln Ala Met Phe Leu
 305 310 315 320
 Gln Met Gly Phe Ser Pro Val Thr His Ser Asn Phe Thr Glu Ser Gln
 325 330 335
 Ala Glu Cys Leu Val Gln Arg Thr Pro Val Arg Gly Phe His Val Glu
 340 345 350
 Lys Lys His Asn Ser Leu Leu Leu Cys Trp Gln Arg Thr Glu Leu Val
 355 360 365
 Gly Val Ser Ala Trp Arg Cys Arg Ser Ser Xaa
 370 375

<210> 47

<211> 745

<212> DNA

<213> Arabidopsis thaliana

<400> 47

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60

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gatggaggtc tttgggagag aggcactgaa tgtgattgct tgcgaagggt gggaaagagt 180
ggagaggcct gagacataca agcagtggca cgtacgggct atgaggtcag ggttggtgca 240
ggttccattt gacccaagca ttatgaagac atcgctgcat aagggtccaca cattctacca 300
caaggatttt gtgatcgatc aagataaccg gtggctcttg caaggctgga agggaagaac 360
tgtcatggct ctttctgttt ggaaaccaga gtccaaggct tgaccgagaa atcctcgttg 420
gcatatgaga gaccatctct tgattttctt cctgtgtaat tcccagagac agaattacag 480
atgtaagaag agaatgctgc acaaagaact tgttcaaaga taatattgat gtaagtcctg 540
ttttataact ttctagctgt gtttttggtt tttctcagct agattctcct aacggtattc 600
ttgtagctag ggtgatcaga ttgtttgtat attgctagca gagttagttt gtctagattg 660
taacacatat aagaggaagc ttagagtttc tatggtttaa agagaagttt tttccttctc 720
caatgtaaaa aaaaaaaaaa aaaaa 745

<210> 48
<211> 134
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> 1...134
<223> Xaa=unknown amino acid

<400> 48

Ala	Tyr	Asn	Ala	Pro	Phe	Phe	Val	Thr	Arg	Phe	Arg	Glu	Ala	Leu	Phe
1				5					10					15	
His	Phe	Ser	Ser	Ile	Phe	Asp	Met	Leu	Glu	Thr	Ile	Val	Pro	Arg	Glu
			20					25					30		
Asp	Glu	Glu	Arg	Met	Phe	Leu	Glu	Met	Glu	Val	Phe	Gly	Arg	Glu	Ala
			35				40					45			
Leu	Asn	Val	Ile	Ala	Cys	Glu	Gly	Trp	Glu	Arg	Val	Glu	Arg	Pro	Glu
		50				55				60					
Thr	Tyr	Lys	Gln	Trp	His	Val	Arg	Ala	Met	Arg	Ser	Gly	Leu	Val	Gln
65				70					75				80		
Val	Pro	Phe	Asp	Pro	Ser	Ile	Met	Lys	Thr	Ser	Leu	His	Lys	Val	His
				85				90					95		
Thr	Phe	Tyr	His	Lys	Asp	Phe	Val	Ile	Asp	Gln	Asp	Asn	Arg	Trp	Leu
			100					105					110		

Leu Gln Gly Trp Lys Gly Arg Thr Val Met Ala Leu Ser Val Trp Lys
 115 120 125

Pro Glu Ser Lys Ala Xaa
 130

<210> 49
 <211> 775
 <212> DNA
 <213> Arabidopsis thaliana

<400> 49

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aaaaaatggg aaaccatcac tcttgatgaa cttatgatca atccaggaga gacaacggtc      60
gtcaactgca ttcatcggtt acaatacact cctgatgaaa ctgtgtcatt agactctcca      120
agagacacgg ttctgaagct attcagagat atcaatcctg acctctttgt gtttgagag      180
attaacggaa tgtacaactc tcctttcttc atgacgaggt tccgagaagc gctttttcat      240
tactcttcac tctttgacat gtttgacacc acaatacacg cagaggatga gtacaaaaac      300
aggtcactgt tggagagaga gttacttggt agagacgcga tgagcgtgat ttctgcgag      360
gggtgcagagc ggtttgagag gcctgaaacc tacaagcaat ggcgagttag gattttgaga      420
gccgggttta agccagcaac tattagcaaa cagatcatga aggaggctaa ggaaattgtg      480
aggaaacggt accatagaga tttgtgatc gatagcgata acaattggat gtttcaagga      540
tggaaggaa gagtcatcta tgctttttct tgctggaaac ctgctgagaa gttcaciaac      600
aataatttaa acatctgaaa aatgttactt ctcaattaca tcatttttgt ttcccaatgg      660
ttttgtagaa tatgtttgat cccgtgagtg gatgcaactc ttttttcctg caagtacata      720
ttgtattcaa atccttggtg aaatgataaa ttgtttaatc aaaaaaaaaa aaaaa      775
  
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<210> 50
 <211> 206
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> SITE
 <222> 1...206
 <223> Xaa=unknown amino acid

<400> 50

Lys Lys Trp Glu Thr Ile Thr Leu Asp Glu Leu Met Ile Asn Pro Gly
 1 5 10 15

Glu Thr Thr Val Val Asn Cys Ile His Arg Leu Gln Tyr Thr Pro Asp

20										25										30										
Glu	Thr	Val	Ser	Leu	Asp	Ser	Pro	Arg	Asp	Thr	Val	Leu	Lys	Leu	Phe															
		35					40					45																		
Arg	Asp	Ile	Asn	Pro	Asp	Leu	Phe	Val	Phe	Ala	Glu	Ile	Asn	Gly	Met															
	50					55					60																			
Tyr	Asn	Ser	Pro	Phe	Phe	Met	Thr	Arg	Phe	Arg	Glu	Ala	Leu	Phe	His															
65					70				75					80																
Tyr	Ser	Ser	Leu	Phe	Asp	Met	Phe	Asp	Thr	Thr	Ile	His	Ala	Glu	Asp															
			85					90					95																	
Glu	Tyr	Lys	Asn	Arg	Ser	Leu	Leu	Glu	Arg	Glu	Leu	Leu	Val	Arg	Asp															
		100					105					110																		
Ala	Met	Ser	Val	Ile	Ser	Cys	Glu	Gly	Ala	Glu	Arg	Phe	Ala	Arg	Pro															
	115					120					125																			
Glu	Thr	Tyr	Lys	Gln	Trp	Arg	Val	Arg	Ile	Leu	Arg	Ala	Gly	Phe	Lys															
	130					135				140																				
Pro	Ala	Thr	Ile	Ser	Lys	Gln	Ile	Met	Lys	Glu	Ala	Lys	Glu	Ile	Val															
145				150				155					160																	
Arg	Lys	Arg	Tyr	His	Arg	Asp	Phe	Val	Ile	Asp	Ser	Asp	Asn	Asn	Trp															
			165					170					175																	
Met	Leu	Gln	Gly	Trp	Lys	Gly	Arg	Val	Ile	Tyr	Ala	Phe	Ser	Cys	Trp															
		180					185					190																		
Lys	Pro	Ala	Glu	Lys	Phe	Thr	Asn	Asn	Asn	Leu	Asn	Ile	Xaa																	
	195					200					205																			

<210> 51

<211> 548

<212> DNA

<213> Arabidopsis thaliana

<400> 51

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cccggtttgg gttaatggag gagaaagaac aatggagagt gttgatggag aaagctggat	180
ttgagccggt taaaccgagt aattacgcgg ttagccaagc gaagctgcta ctatggaact	240
acaattatag tacattgtat tcaactgttg aatcggagcc aggtttcatc tccttggtt	300
ggaacaatgt gcctctcctc accgtttcct cttggcgttg actacttggt ccgataagtt	360
aatctagtag tttgagttag cttttagaat tgaattgttt ggggttagat ttggatgttt	420
aattagtctc tagcctattc tcttactctt ttttgtctag tgcttggagt gatgatggtt	480

tgctcgtttat gttcatttgt aatatatatt gtatgtaaca tttgactaaa aaaaaaaaaa 540
 aaaaaaaaaa 548

<210> 52
 <211> 113
 <212> PRT
 <213> Arabidopsis thaliana
 <220>
 <221> SITE
 <222> 1...113
 <223> Xaa=unknown amino acid
 <400> 52

Ser	Leu	Glu	Pro	Asn	Leu	Asp	Arg	Asp	Ser	Lys	Glu	Arg	Leu	Arg	Val
1				5					10					15	
Glu	Arg	Val	Leu	Phe	Gly	Arg	Arg	Ile	Met	Asp	Leu	Val	Arg	Ser	Asp
			20					25					30		
Asp	Asp	Asn	Asn	Lys	Pro	Gly	Thr	Arg	Phe	Gly	Leu	Met	Glu	Glu	Lys
		35					40					45			
Glu	Gln	Trp	Arg	Val	Leu	Met	Glu	Lys	Ala	Gly	Phe	Glu	Pro	Val	Lys
	50					55					60				
Pro	Ser	Asn	Tyr	Ala	Val	Ser	Gln	Ala	Lys	Leu	Leu	Leu	Trp	Asn	Tyr
65					70					75				80	
Asn	Tyr	Ser	Thr	Leu	Tyr	Ser	Leu	Val	Glu	Ser	Glu	Pro	Gly	Phe	Ile
			85					90						95	
Ser	Leu	Ala	Trp	Asn	Asn	Val	Pro	Leu	Leu	Thr	Val	Ser	Ser	Trp	Arg
		100						105					110		

Xaa
 <210> 53
 <211> 1093
 <212> DNA
 <213> Arabidopsis thaliana
 <400> 53

gcgaatgttg agatcttgga agcaatagct ggggaaacca gagtccacat tatcgatttt	60
cagattgcac agggatcaca atacatgttt ttgattcagg agcttgcgaa acgccctggt	120
gggccgccgt tgctgcgtgt gacgggtgtg gatgattcac agtcaccta tgctcgtggg	180
ggaggactca gcttggttagg tgagaggctt gcaactttgg cgcagtcatg tgggtgtccc	240
tttgagtttc acgatgccat catgtctggg tgcaagggtgc agcgggaaca tctcgggttg	300

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gaacctggct ttgctgttgt tgtgaacttc ccatatgtat tacaccacat gccagacgag      360
agcgtaagtg ttgaaaaata cagagacagg ctgctgcata tgatcaagag cctctcccca      420
aaactgggta ctctagtaga gcaagaatcc aacacaaaca cctcgccatt ggtgtcacgg      480
tttgtggaaa cactggatta ctacacagcg atgtttgagt cgatagatgc agcacggcca      540
cgggatgata agcagagaat cagcgcagaa caacactgtg tagcaagaga catagtgaac      600
atgatagcat gtgaggagtc agagagagta gagagacacg aggtactggg gaaatggagg      660
gtcagaatga tgatggctgg gttcacgggt tggccgggtca gcacatctgc agcgtttgca      720
gcgagtgaga tgctgaaagc ttatgacaaa aactacaaac tgggaggcca tgaaggagcg      780
ctctacctct tctggaagag acgacccatg gctacatgtt ccgtgtggaa gccaaaccca      840
aactatattg ggtaagttat agtgatgatg gttacttgag tggataaaga agagcacaac      900
aaaaacacat ctgtcgctgt aaatTTTTTA ggatgtgcaa tgatgtttta agttgtaaca      960
caacctaagt tatatatgta taaaaccaa acctgggtgg tgtttttctc ttgtaaattg     1020
tcatgtgggt gtgggtggga agctagtaat gaaatataac caaacattg attaggtcaa     1080
aaaaaaaaaa aaa                                                                1093

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<210> 54

<211> 285

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> SITE

<222> 1...285

<223> Xaa=unknown amino acid

<400> 54

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Ala Asn Val Glu Ile Leu Glu Ala Ile Ala Gly Glu Thr Arg Val His
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Ile Ile Asp Phe Gln Ile Ala Gln Gly Ser Gln Tyr Met Phe Leu Ile
      20             25            30
Gln Glu Leu Ala Lys Arg Pro Gly Gly Pro Pro Leu Leu Arg Val Thr
      35             40            45
Gly Val Asp Asp Ser Gln Ser Thr Tyr Ala Arg Gly Gly Gly Leu Ser
      50             55            60
Leu Val Gly Glu Arg Leu Ala Thr Leu Ala Gln Ser Cys Gly Val Pro
      65             70            75            80
Phe Glu Phe His Asp Ala Ile Met Ser Gly Cys Lys Val Gln Arg Glu
      85             90            95

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His Leu Gly Leu Glu Pro Gly Phe Ala Val Val Val Asn Phe Pro Tyr
 100 105 110
 Val Leu His His Met Pro Asp Glu Ser Val Ser Val Glu Lys Tyr Arg
 115 120 125
 Asp Arg Leu Leu His Leu Ile Lys Ser Leu Ser Pro Lys Leu Val Thr
 130 135 140
 Leu Val Glu Gln Glu Ser Asn Thr Asn Thr Ser Pro Leu Val Ser Arg
 145 150 155 160
 Phe Val Glu Thr Leu Asp Tyr Tyr Thr Ala Met Phe Glu Ser Ile Asp
 165 170 175
 Ala Ala Arg Pro Arg Asp Asp Lys Gln Arg Ile Ser Ala Glu Gln His
 180 185 190
 Cys Val Ala Arg Asp Ile Val Asn Met Ile Ala Cys Glu Glu Ser Glu
 195 200 205
 Arg Val Glu Arg His Glu Val Leu Gly Lys Trp Arg Val Arg Met Met
 210 215 220
 Met Ala Gly Phe Thr Gly Trp Pro Val Ser Thr Ser Ala Ala Phe Ala
 225 230 235 240
 Ala Ser Glu Met Leu Lys Ala Tyr Asp Lys Asn Tyr Lys Leu Gly Gly
 245 250 255
 His Glu Gly Ala Leu Tyr Leu Phe Trp Lys Arg Arg Pro Met Ala Thr
 260 265 270
 Cys Ser Val Trp Lys Pro Asn Pro Asn Tyr Ile Gly Xaa
 275 280 285

<210> 55

<211> 1928

<212> DNA

<213> Arabidopsis thaliana

<400> 55

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cagaattttc aatctccgctc ggccgatgat tgatctcacg tcggtgaatg atatgagttt	180
gtttggtggt tctggttcat ctcagcggtta cggtttaccg gttcccaggt ctcagacgca	240
acagcaacaa tcggattacg gtttatttgg tgggatccga atgggaatcg ggtcgggtat	300
taataattat ccaacattaa ccggcgttcc gtgtattgaa ccggttcaaa accgggttca	360
tgaatcggag aacatgttga atagtttaag agagcttgag aaacagcttt tagatgatga	420

cgatgagagt ggtggtgatg atgacgtgtc agttataaca aattcaaatt ccgattggat	480
tcaaaatctc gtgactccga acccgaaccc gaacccggtt ttgtcttttt caccgagctc	540
ttcttcttcg tcttcttcgc cttctacagc ttcgacgacg acatcggtat gttctaggca	600
aacggttatg gaaatcgcg cggcgatcgc ggaagggaaa acagagatag cgacggagat	660
tttggcgcgt gtttctcaaa cgctaatact tgagaggaat tcagaggaga agcttggtga	720
tttcatggtg gctgcgcttc gatcgaggat agcttctcca gtgacggaat tgtatgggaa	780
ggagcattta atctcgactc aattgctcta cgagctctct ccttgtttca aactcggttt	840
cgaggccgcg aatctcgcca ttctcgacgc cgccgataac aacgacggtg gaatgatgat	900
accgcacgtt atcgatttcg atacggaga aggtggacaa tacgttaacc ttctccgtac	960
attatccacg cgccggaatg gtaaaagtca gagtcagaat tctccggtgg ttaagatcac	1020
cgccgtggcg aacaacgttt acggatgttt agtcgatgac ggtggagaag agagggtaaa	1080
agccgtcgga gatttggtga gccaaactcg tgatcgactc ggtatctccg taagtttcaa	1140
cgtggtgacg agttttacgac tcggtgatct gaatcgtgaa tctctcgggt gtgatccga	1200
cgagactttg gctgtgaact tagctttcaa gctttatcgt gttcccgacg aaagcgtatg	1260
cacggagaat ccaagagacg aacttctccg gcgcgtgaag ggacttaaac cgcgcggtgt	1320
tactctagtg gagcaagaaa tgaattcgaa tacggcgccg tttttaggga gagtgagtga	1380
gtcatgcgcg tgttacggtg cgttgcttga gtcggtcgag tctacggttc ctagtacgaa	1440
ttccgaccgt gccaaagtgt aggaaggaat tggcgggaag ctagtaaacg cgggtggcgtg	1500
cgaaggaatc gatcgatatag agcgggtgca ggtgttcggg aaatggcgaa tgcggatgag	1560
catggctggg tttgagttaa tgccattgag tgagaagata gcggagtcga tgaagagtcg	1620
tggaaaccga gtccacccgg gctttaccgt taaagaagat aacggaggtg tgtgctttgg	1680
ttggatggga cgggcactca ctgtcgatc cgcttggcgt taacttcaca cactcttttt	1740
tttcttctta ttattaccat attattatta attttcgaga ttattctgat attattatca	1800
ttgtgatttt ccgtttcgaa aagtgtagga atcttatgta acaaagaaaa aaaaaagact	1860
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aaaaaaaa	1928

<210> 56

<211> 524

<212> PRT

<213> *Arabidopsis thaliana*

<220>
 <221> SITE
 <222> 1...524
 <223> Xaa=unknown amino acid

<400> 56

Asp	Leu	Thr	Ser	Val	Asn	Asp	Met	Ser	Leu	Phe	Gly	Gly	Ser	Gly	Ser	1	5	10	15
Ser	Gln	Arg	Tyr	Gly	Leu	Pro	Val	Pro	Arg	Ser	Gln	Thr	Gln	Gln	Gln	20	25	30	
Gln	Ser	Asp	Tyr	Gly	Leu	Phe	Gly	Gly	Ile	Arg	Met	Gly	Ile	Gly	Ser	35	40	45	
Gly	Ile	Asn	Asn	Tyr	Pro	Thr	Leu	Thr	Gly	Val	Pro	Cys	Ile	Glu	Pro	50	55	60	
Val	Gln	Asn	Arg	Val	His	Glu	Ser	Glu	Asn	Met	Leu	Asn	Ser	Leu	Arg	65	70	75	80
Glu	Leu	Glu	Lys	Gln	Leu	Leu	Asp	Asp	Asp	Asp	Glu	Ser	Gly	Gly	Asp	85	90	95	
Asp	Asp	Val	Ser	Val	Ile	Thr	Asn	Ser	Asn	Ser	Asp	Trp	Ile	Gln	Asn	100	105	110	
Leu	Val	Thr	Pro	Asn	Pro	Asn	Pro	Asn	Pro	Val	Leu	Ser	Phe	Ser	Pro	115	120	125	
Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Pro	Ser	Thr	Ala	Ser	Thr	Thr	Thr	130	135	140	
Ser	Val	Cys	Ser	Arg	Gln	Thr	Val	Met	Glu	Ile	Ala	Thr	Ala	Ile	Ala	145	150	155	160
Glu	Gly	Lys	Thr	Glu	Ile	Ala	Thr	Glu	Ile	Leu	Ala	Arg	Val	Ser	Gln	165	170	175	
Thr	Pro	Asn	Leu	Glu	Arg	Asn	Ser	Glu	Glu	Lys	Leu	Val	Asp	Phe	Met	180	185	190	
Val	Ala	Ala	Leu	Arg	Ser	Arg	Ile	Ala	Ser	Pro	Val	Thr	Glu	Leu	Tyr	195	200	205	
Gly	Lys	Glu	His	Leu	Ile	Ser	Thr	Gln	Leu	Leu	Tyr	Glu	Leu	Ser	Pro	210	215	220	
Cys	Phe	Lys	Leu	Gly	Phe	Glu	Ala	Ala	Asn	Leu	Ala	Ile	Leu	Asp	Ala	225	230	235	240
Ala	Asp	Asn	Asn	Asp	Gly	Gly	Met	Met	Ile	Pro	His	Val	Ile	Asp	Phe	245	250	255	
Asp	Ile	Gly	Glu	Gly	Gly	Gln	Tyr	Val	Asn	Leu	Leu	Arg	Thr	Leu	Ser	260	265	270	

Thr Arg Arg Asn Gly Lys Ser Gln Ser Gln Asn Ser Pro Val Val Lys
 275 280 285
 Ile Thr Ala Val Ala Asn Asn Val Tyr Gly Cys Leu Val Asp Asp Gly
 290 295 300
 Gly Glu Glu Arg Leu Lys Ala Val Gly Asp Leu Leu Ser Gln Leu Gly
 305 310 315 320
 Asp Arg Leu Gly Ile Ser Val Ser Phe Asn Val Val Thr Ser Leu Arg
 325 330 335
 Leu Gly Asp Leu Asn Arg Glu Ser Leu Gly Cys Asp Pro Asp Glu Thr
 340 345 350
 Leu Ala Val Asn Leu Ala Phe Lys Leu Tyr Arg Val Pro Asp Glu Ser
 355 360 365
 Val Cys Thr Glu Asn Pro Arg Asp Glu Leu Leu Arg Arg Val Lys Gly
 370 375 380
 Leu Lys Pro Arg Val Val Thr Leu Val Glu Gln Glu Met Asn Ser Asn
 385 390 395 400
 Thr Ala Pro Phe Leu Gly Arg Val Ser Glu Ser Cys Ala Cys Tyr Gly
 405 410 415
 Ala Leu Leu Glu Ser Val Glu Ser Thr Val Pro Ser Thr Asn Ser Asp
 420 425 430
 Arg Ala Lys Val Glu Glu Gly Ile Gly Arg Lys Leu Val Asn Ala Val
 435 440 445
 Ala Cys Glu Gly Ile Asp Arg Ile Glu Arg Cys Glu Val Phe Gly Lys
 450 455 460
 Trp Arg Met Arg Met Ser Met Ala Gly Phe Glu Leu Met Pro Leu Ser
 465 470 475 480
 Glu Lys Ile Ala Glu Ser Met Lys Ser Arg Gly Asn Arg Val His Pro
 485 490 495
 Gly Phe Thr Val Lys Glu Asp Asn Gly Gly Val Cys Phe Gly Trp Met
 500 505 510
 Gly Arg Ala Leu Thr Val Ala Ser Ala Trp Arg Xaa
 515 520

<210> 57
 <211> 2635
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...2635
 <223> n=a, c, g, or t

<400> 57

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tgggttctta tccggatgga ttccctggat ccatggacga gttggatttc aataaggact	180
ttgatttgcc tccctctca aaccaaacct taggttttagc taatgggttc tatttagatg	240
acttagattt ctcatccttg gatcctccag aggcataatc ctcccagaac aacaacaaca	300
acaacatcaa caacaaagct gtagcaggag atctgttatc atcttcatct gatgaagctg	360
atttctctga ttctgttttg aagtatataa gccaaagtct tatggaagag gatatggaag	420
agaagccttg tatgtttcat gatgcttttg ctcttcaagc tgctgagaaa tctctctatg	480
aggctcttg tgagaaagac cttcttctgt cttctgtctc ttctgtggat catctgaga	540
gattggctag tcatagccct gacggttctt gttcagggtg tgcttttagt gattacgcta	600
gcaccactac cactacttcc tctgattctc actggagtgt tgatggtttg gagaatagac	660
cttcttggtt acatacacct atgccagata attttgtttt ccagtctact tctaggtcca	720
acagtgtcac cgggtggttg ggtggtggt atagtgcggt ttacggttca ggttttggcg	780
atgatttggt ttcgaatatg tttaaagatg atgaattggc tatgcagttc aagaaagggg	840
ttgaggaagc tagtaagttc cttcctaagt cttctcagct ctttattgat gtggatagtt	900
acatccctat gaattctggt tccaaggaaa atggttctga ggtttttggt aagacggaga	960
agaaagatga gacagagcat catcatcatc atagctatgc accaccaccc aacagattaa	1020
ctggttaagaa aagccatttg cgcgacgaag atgaagattt cgttgaagaa agaagtaaca	1080
agcaatcagc tgtttatggt gaggaagcg agctttctga aatgtttgat aacatgttcc	1140
tatgtggccc tgggaaacct gtatgcattc ttaaccagaa ctttcctaca gaatccgcta	1200
aagtcgtgac cgcacagtca aatggagcaa agattcgttg gaagaaatca acttctacta	1260
gtcatagtaa cgattctaag aaagaaactg ctgatttgag gactcttttg gtgttatgtg	1320
cacaagctgt atcagtggat gatcgtagaa ccgccaacgt ttagctaagg cagatacgag	1380
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ttgaagcacg cttagctggg accggtacac agatctacac cgctttatct tcgaagaaaa	1500
cgtctgcagc agacatgttg aaggcttacc agacatacat gtcgggtctgc cttttcaaga	1560
aagctgctat catatttgct aaccacagca tgatgcgttt cactgcaaac gccaacacga	1620
tccacataat agatttcgga atatcttacg gttttcagtg gcctgctctg attcatcgcc	1680

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tctcgctcag cagacctggt ggttcgcccta agcttcgaat taccggtnnn nnnnnnnnnn 1740
nnnnnnnnnn nnnnnnnnnn nnnagattca ggagacaggt catcgcttgg ctcgatactg 1800
tcagcgacac aatgttccgt ttgagtacaa cgcaattgct cagaaatggg gaaacgatcc 1860
aagtcgaaga cttaaagctt cgacaaggag agtatgtggt tgtgaactct ttgttccggt 1920
tcaggaacct tctagatgag accgttcttg taaacagccc gagagatgca gttttgaagc 1980
tgataagaaa aataaacccg aatgtcttca ttccagcgat cttaagcggg aattacaacg 2040
cgccattctt tgtcacgagg ttcagagaag cgttgtttca ttactcggct gtgtttgata 2100
tgtgtgactc gaagctagct aggggaagacg agatgaggct gatgtatgtg tttgagtttt 2160
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agacatataa gcagtggcag gcgagactga tccgagccgg atttagacag cttccgcttg 2280
agaaggaact gatgcagaat ctgaagttga aaatcgaaaa cgggtacgat aaaaacttcg 2340
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tagggttctt gaacactaga atgttgttat attatgcttg tgacatagcg tgtgtaagag 2580
tgtagcctaa gagatatagt actcattgca tgatcttttg ctatatgttn catgt 2635

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<210> 58

<211> 809

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> SITE

<222> 1...809

<223> Xaa=unknown amino acid

<400> 58

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Arg Ile Lys Ile Arg Pro Leu Leu Asp Ile Asn Asp Ser Gly Phe Leu
          20             25             30

Gly Phe Trp Ser Trp Ile His Met Gly Ser Tyr Pro Asp Gly Phe Pro
          35             40             45

Gly Ser Met Asp Glu Leu Asp Phe Asn Lys Asp Phe Asp Leu Pro Pro
          50             55             60

```

Ser Ser Asn Gln Thr Leu Gly Leu Ala Asn Gly Phe Tyr Leu Asp Asp
 65 70 75 80
 Leu Asp Phe Ser Ser Leu Asp Pro Pro Glu Ala Tyr Pro Ser Gln Asn
 85 90 95
 Asn Asn Asn Asn Asn Ile Asn Asn Lys Ala Val Ala Gly Asp Leu Leu
 100 105 110
 Ser Ser Ser Ser Asp Asp Ala Asp Phe Ser Asp Ser Val Leu Lys Tyr
 115 120 125
 Ile Ser Gln Val Leu Met Glu Glu Asp Met Glu Glu Lys Pro Cys Met
 130 135 140
 Phe His Asp Ala Leu Ala Leu Gln Ala Ala Glu Lys Ser Leu Tyr Glu
 145 150 155 160
 Ala Leu Gly Glu Lys Asp Pro Ser Ser Ser Ser Ala Ser Ser Val Asp
 165 170 175
 His Pro Glu Arg Leu Ala Ser His Ser Pro Asp Gly Ser Cys Ser Gly
 180 185 190
 Gly Ala Phe Ser Asp Tyr Ala Ser Thr Thr Thr Thr Thr Ser Ser Asp
 195 200 205
 Ser His Trp Ser Val Asp Gly Leu Glu Asn Arg Pro Ser Trp Leu His
 210 215 220
 Thr Pro Met Pro Ser Asn Phe Val Phe Gln Ser Thr Ser Arg Ser Asn
 225 230 235 240
 Ser Val Thr Gly Gly Gly Gly Gly Gly Asn Ser Ala Val Tyr Gly Ser
 245 250 255
 Gly Phe Gly Asp Asp Leu Val Ser Asn Met Phe Lys Asp Asp Glu Leu
 260 265 270
 Ala Met Gln Phe Lys Lys Gly Val Glu Glu Ala Ser Lys Phe Leu Pro
 275 280 285
 Lys Ser Ser Gln Leu Phe Ile Asp Val Asp Ser Tyr Ile Pro Met Asn
 290 295 300
 Ser Gly Ser Lys Glu Asn Gly Ser Glu Val Phe Val Lys Thr Glu Lys
 305 310 315 320
 Lys Asp Glu Thr Glu His His His His His Ser Tyr Ala Pro Pro Pro
 325 330 335
 Asn Arg Leu Thr Gly Lys Lys Ser His Trp Arg Asp Glu Asp Glu Asp
 340 345 350
 Phe Val Glu Glu Arg Ser Asn Lys Gln Ser Ala Val Tyr Val Glu Glu
 355 360 365
 Ser Glu Leu Ser Glu Met Phe Asp Asn Met Phe Leu Cys Gly Pro Gly

370					375					380					
Lys	Pro	Val	Cys	Ile	Leu	Asn	Gln	Asn	Phe	Pro	Thr	Glu	Ser	Ala	Lys
385					390					395					400
Val	Val	Thr	Ala	Gln	Ser	Asn	Gly	Ala	Lys	Ile	Arg	Gly	Lys	Lys	Ser
				405					410					415	
Thr	Ser	Thr	Ser	His	Ser	Asn	Asp	Ser	Lys	Lys	Glu	Thr	Ala	Asp	Leu
			420					425					430		
Arg	Thr	Leu	Leu	Val	Leu	Cys	Ala	Gln	Ala	Val	Ser	Val	Asp	Asp	Arg
		435					440					445			
Arg	Thr	Ala	Asn	Val	Xaa	Leu	Arg	Gln	Ile	Arg	Glu	His	Ser	Ser	Pro
		450				455					460				
Leu	Gly	Asn	Gly	Ser	Glu	Arg	Leu	Ala	His	Tyr	Phe	Ala	Asn	Ser	Leu
465					470					475					480
Glu	Ala	Arg	Leu	Ala	Gly	Thr	Gly	Thr	Gln	Ile	Tyr	Thr	Ala	Leu	Ser
				485					490					495	
Ser	Lys	Lys	Thr	Ser	Ala	Ala	Asp	Met	Leu	Lys	Ala	Tyr	Gln	Thr	Tyr
			500					505					510		
Met	Ser	Val	Cys	Pro	Phe	Lys	Lys	Ala	Ala	Ile	Ile	Phe	Ala	Asn	His
		515					520					525			
Ser	Met	Met	Arg	Phe	Thr	Ala	Asn	Ala	Asn	Thr	Ile	His	Ile	Ile	Asp
		530					535					540			
Phe	Gly	Ile	Ser	Tyr	Gly	Phe	Gln	Trp	Pro	Ala	Leu	Ile	His	Arg	Leu
545					550					555					560
Ser	Leu	Ser	Arg	Pro	Gly	Gly	Ser	Pro	Lys	Leu	Arg	Ile	Thr	Gly	Xaa
				565					570					575	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Glu	Phe	Arg	Arg	Gln
			580					585					590		
Val	Ile	Ala	Trp	Leu	Asp	Thr	Val	Ser	Asp	Thr	Met	Phe	Arg	Leu	Ser
		595					600					605			
Thr	Thr	Gln	Leu	Leu	Arg	Asn	Gly	Glu	Thr	Ile	Gln	Val	Glu	Asp	Leu
		610				615					620				
Lys	Leu	Arg	Gln	Gly	Glu	Tyr	Val	Val	Val	Asn	Ser	Leu	Phe	Arg	Phe
625					630					635					640
Arg	Asn	Leu	Leu	Asp	Glu	Thr	Val	Leu	Val	Asn	Ser	Pro	Arg	Asp	Ala
				645					650					655	
Val	Leu	Lys	Leu	Ile	Arg	Lys	Ile	Asn	Pro	Asn	Val	Phe	Ile	Pro	Ala
		660						665					670		
Ile	Leu	Ser	Gly	Asn	Tyr	Asn	Ala	Pro	Phe	Phe	Val	Thr	Arg	Phe	Arg
		675					680					685			

Glu Ala Leu Phe His Tyr Ser Ala Val Phe Asp Met Cys Asp Ser Lys
 690 695 700
 Leu Ala Arg Glu Asp Glu Met Arg Leu Met Tyr Val Phe Glu Phe Tyr
 705 710 715 720
 Gly Arg Glu Ile Val Asn Val Val Ala Ser Glu Gly Thr Glu Arg Val
 725 730 735
 Glu Ser Arg Glu Thr Tyr Lys Gln Trp Gln Ala Arg Leu Ile Arg Ala
 740 745 750
 Gly Phe Arg Gln Leu Pro Leu Glu Lys Glu Leu Met Gln Asn Leu Lys
 755 760 765
 Leu Lys Ile Glu Asn Gly Tyr Asp Lys Asn Phe Asp Val Asp Gln Asn
 770 775 780
 Gly Asn Trp Leu Leu Gln Gly Trp Lys Gly Arg Ile Val Tyr Ala Ser
 785 790 795 800
 Ser Leu Trp Val Pro Ser Ser Ser Xaa
 805

<210> 59
 <211> 90
 <212> PRT
 <213> Oryza sativa

<220>
 <221> SITE
 <222> 1...90
 <223> Xaa=unknown amino acid

<400> 59

Gln Glu Ala Asp His Asn Lys Thr Gly Phe Leu Asp Arg Phe Thr Glu
 1 5 10 15
 Ala Leu Phe Tyr Tyr Ser Ala Val Phe Asp Ser Leu Asp Ala Ala Asn
 20 25 30
 Asn Asn Asn Asn Asn Asn Asn Gln Arg Met Glu Ala Glu Tyr Leu Gln
 35 40 45
 Arg Glu Ile Cys Asp Ile Val Cys Gly Glu Gly Ala Ala Arg Xaa Glu
 50 55 60
 Arg His Glu Pro Leu Ser Arg Trp Arg Asp Arg Leu Thr Arg Ala Gly
 65 70 75 80
 Leu Ser Ala Val Pro Leu Gly Ser Asn Ala
 85 90

<210> 60
 <211> 199
 <212> DNA

<213> Daucus carota

<220>

<221> modified_base

<222> 1...199

<223> n=a, c, g, or t

<400> 60

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cctnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nngtacttc tcagaggnaa tgtcggnnag    120
attagttagc tcctgcttag gaatctatgc ttctcttcen gcaacagtgg tgctctctca      180
tggtcagaaa gtggcctca                                           199
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<210> 61

<211> 66

<212> PRT

<213> Daucus carota

<220>

<221> SITE

<222> 1...66

<223> Xaa=unknown amino acid

<400> 61

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Ser Ala Asp Asn Phe Xaa Glu Ala Asn Thr Met Leu Leu Glu Ile Ser
 1             5             10            15
Glu Leu Ser Thr Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Tyr
      20             25             30
Phe Ser Glu Xaa Met Ser Xaa Arg Leu Val Ser Ser Cys Leu Gly Ile
      35             40             45
Tyr Ala Ser Leu Pro Ala Thr Val Val Pro Pro His Gly Gln Lys Val
      50             55             60
Ala Ser
65
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<210> 62

<211> 321

<212> DNA

<213> Glycine max

<220>

<221> modified_base

<222> 1...321

<223> n=a, c, g, or t

<400> 62

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 ccgttcnnc cttcagcaca gcgtgtggca gcatatttct cagaagccat atcagcaagg 120
 ttggtgagtt catgtctagg gatatacgca actttgccac acacacacca aagccacaag 180
 gtagcttcag cttttcaagt gttcaatggg attagtcctt tagtggagtt ctcacacttc 240
 acagcaaacc aagcaattca agaagccttc gaaagagaag agaggggtgca catcatagat 300
 cttgatataa tgcaagggtt g 321

<210> 63
 <211> 107
 <212> PRT
 <213> Glycine max
 <220>
 <221> SITE
 <222> 1...107
 <223> Xaa=unknown amino acid
 <400> 63

Ser	Thr	Glu	Asn	Leu	Glu	Asp	Ala	Asn	Lys	Met	Leu	Leu	Glu	Ile	Ser
1				5					10					15	
Gln	Leu	Ser	Thr	Pro	Phe	Xaa	Thr	Ser	Ala	Gln	Arg	Val	Ala	Ala	Tyr
			20					25					30		
Phe	Ser	Glu	Ala	Ile	Ser	Ala	Arg	Leu	Val	Ser	Ser	Cys	Leu	Gly	Ile
		35					40					45			
Tyr	Ala	Thr	Leu	Pro	His	Thr	His	Gln	Ser	His	Lys	Val	Ala	Ser	Ala
	50					55					60				
Phe	Gln	Val	Phe	Asn	Gly	Ile	Ser	Pro	Leu	Val	Glu	Phe	Ser	His	Phe
65					70					75				80	
Thr	Ala	Asn	Gln	Ala	Ile	Gln	Glu	Ala	Phe	Glu	Arg	Glu	Glu	Arg	Val
			85					90					95		
His	Ile	Ile	Asp	Leu	Asp	Ile	Met	Gln	Gly	Leu					
			100				105								

<210> 64
 <211> 195
 <212> DNA
 <213> Picea abies
 <220>
 <221> modified_base
 <222> 1...195
 <223> n=a, c, g, or t
 <400> 64


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ccctatngca actcgggtgca acgagtggtc gcctatnnnn nnnnnnnnnnn nnnnnnnnnnn      120
nnnnnnnnnn nntgcatagg aatgtattct cctctccctc ctattcacat gtcccagagc      180
cagaaaattg tgaat                                                         195

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<210> 65
<211> 65
<212> PRT
<213> Picea abies

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<220>
<221> SITE
<222> 1...65
<223> Xaa=unknown amino acid

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<400> 65

```

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Ser Ala Asp Asn Phe Glu Glu Ala Asn Thr Ile Leu Pro Gln Ile Thr
 1             5             10             15
Glu Leu Ser Thr Pro Tyr Xaa Asn Ser Val Gln Arg Val Ala Ala Tyr
      20             25             30
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Ile Gly Met
      35             40             45
Tyr Ser Pro Leu Pro Pro Ile His Met Ser Gln Ser Gln Lys Ile Val
      50             55             60

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Asn
65

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<210> 66
<211> 2151
<212> DNA
<213> Zea mays

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<400> 66

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tcatatattg ctcataattga aagtgaaaaa gatatgctca agaacctagt agagaagcta      180
aaaattgaaa aatctagctc tactagaaaa atatgatagg ttgcctgttt ctcatgaaaa      240
tttattagat aatcatatca tggctagatg tcgctcatga ggttgttctt gctagtttag      300
attcctgtgg gcattcatct ctttttagatg cactaacatg ataggaagtt tctaattctg      360
tgcttcacaa ttctgggtgat tcatgcttcc ttcattgcaa ttgatattga tgcttgattc      420

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atgcttcagt cactttgtgc gtttaattgg tattgtatgt atcactagat tgtaggggtgt	480
ctgcaactag tgtttcacca tgtggttttt tagtatcatt cgtattagtt tctaactttc	540
tattgatata ttaaagtgat aactagtttt agaaatattc tcttgtgcca ttaatgctac	600
aacttgtttt tagcgtgtac gtttagcatta taatatttcc ttattatgaa agcggaagag	660
aaacgcgccc aaccagagca tccacgtcgt ctcatttcac ctcatcgtt ggatcataga	720
tgagcgggcc acggtgaact ccgtttgcct gcaaaaccac gtcctctacg cgctgttaag	780
tagcttctag aaacatcacg atgtgtcccg tccattcctt taggaggagc cggatccggc	840
gccgcagtcg cccaaggtcc cgaccgcgcg ggccctcggc gccgccgcca aggagcggaa	900
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acttcgcgga ggccatgtcg gcgcgcgtcg tcagctcctg cctaggcctg tacgcgcgc	1140
tgccgccggg ctcccccgcc gcggcgccg tccacggccg cgtggccgcc gcgttccagg	1200
tgttcaacgg catcagcccc ttcgtcaagt tctcgactt caccgccaac caggccatcc	1260
aggaggcggt cgagcgggag gagcgtgtgc acatcatcga cctcgacatc atgcaggggc	1320
tgcaagtggc gggcctcttc cacatccttg tctccgccc cggcggcccg ccagggtca	1380
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acttcgccga cacgctcggc ctgcccttcg agttctgccc cgtcgccgag aaggccggca	1500
acgttgaccc gcagaagctg ggcgtcacgc ggcgggaggc cgtcgccgtc cactggccgc	1560
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cctccatttt ccttctctgc ctttcttcca tgtcaaactt tgatgcaatc atgaccactt	1680
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tccattacag ctattttctaa aatattcttc ggagggttcc tgctcatagt aaaaaaaaaat	1800
cgcgttttga agctcaaaag gcgatttctt ccgaggtttg ctggtgagcg ctattttgga	1860
aaccccatth tctcaattga tttttattht ttaaagaaaa attagttcat ttttctcttg	1920
tgaaatggag tcccaaacta accctaatat taaaaaaaaac gcgctttgga gctcaaaacg	1980
ctcgttgtha tgaccaacca gctttatagg tttaaaaagg ttgaatcttg acaatgcttt	2040
tgaaaagggt gaatcttgac aatgcttttg agatgatact gtagtgtagt ctgtagtgga	2100
gcatcctcca tgggtctttg tgatcgagaa ttctgcagc ccgggggatac c	2151

<210> 67
 <211> 716
 <212> PRT
 <213> Zea mays

<220>
 <221> SITE
 <222> 1...716
 <223> Xaa=unknown amino acid

<400> 67

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Phe	Ser	Xaa	Xaa	Phe	Gly	His	Lys	Val	Xaa	His	Cys	Leu	Asn	Xaa	Ala
			20					25					30		
Ile	Xaa	Xaa	Arg	Asn	Xaa	Ser	Ile	Ile	Tyr	Cys	Ser	Tyr	Xaa	Lys	Xaa
			35				40					45			
Lys	Arg	Tyr	Ala	Gln	Glu	Pro	Ser	Arg	Glu	Ala	Lys	Asn	Xaa	Lys	Ile
	50					55					60				
Xaa	Leu	Tyr	Xaa	Lys	Asn	Met	Ile	Gly	Cys	Leu	Phe	Leu	Met	Lys	Ile
65					70					75					80
Tyr	Xaa	Ile	Ile	Ile	Ser	Trp	Leu	Asp	Val	Ala	His	Glu	Val	Val	Leu
				85					90					95	
Ala	Ser	Leu	Asp	Ser	Cys	Gly	His	Ser	Ser	Leu	Leu	Asp	Ala	Leu	Thr
			100					105					110		
Xaa	Xaa	Glu	Val	Ser	Asn	Leu	Val	Leu	His	Asn	Ser	Gly	Asp	Ser	Cys
		115					120					125			
Phe	Leu	His	Cys	Asn	Xaa	Tyr	Xaa	Cys	Leu	Ile	His	Ala	Ser	Val	Thr
	130					135					140				
Leu	Cys	Val	Xaa	Leu	Val	Leu	Tyr	Val	Ser	Leu	Asp	Cys	Arg	Val	Ser
145					150					155					160
Ala	Thr	Ser	Val	Ser	Pro	Cys	Gly	Phe	Leu	Val	Ser	Phe	Val	Leu	Val
				165					170					175	
Ser	Asn	Phe	Leu	Leu	Ile	Tyr	Xaa	Ser	Asp	Asn	Xaa	Phe	Xaa	Lys	Tyr
			180					185					190		
Ser	Leu	Val	Pro	Leu	Met	Leu	Gln	Leu	Val	Phe	Ser	Val	Tyr	Val	Ser
		195					200					205			
Ile	Ile	Ile	Phe	Pro	Tyr	Tyr	Glu	Ser	Gly	Arg	Glu	Thr	Arg	Pro	Thr
	210						215					220			
Arg	Ala	Ser	Thr	Ser	Ser	His	Phe	Thr	Phe	Ile	Val	Gly	Ser	Xaa	Met
225					230					235					240
Ser	Gly	Pro	Arg	Xaa	Thr	Pro	Phe	Ala	Cys	Lys	Thr	Thr	Ser	Ser	Thr

245										250										255											
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			260						265																						
Phe	Arg	Arg	Ser	Arg	Ile	Arg	Arg	Arg	Ser	Arg	Pro	Arg	Ser	Arg	Pro																
			275						280						285																
Pro	Arg	Pro	Arg	Pro	Pro	Pro	Pro	Arg	Ser	Gly	Arg	Arg	Cys	Ser	Gly																
			290						295						300																
Gly	Ser	Ser	Ala	Thr	Arg	Arg	Ala	Ser	Thr	Cys	Xaa	Val	Leu	Thr	Leu																
			305						310						315																320
Leu	Leu	Gln	Cys	Ala	Glu	Ala	Val	Asn	Ala	Asp	Asn	Leu	Asp	Asp	Ala																
				325					330						335																
His	Gln	Thr	Leu	Leu	Glu	Ile	Ala	Glu	Leu	Ala	Thr	Pro	Phe	Gly	Thr																
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Ser	Thr	Gln	Arg	Val	Ala	Ala	Tyr	Phe	Ala	Glu	Ala	Met	Ser	Ala	Arg																
			355						360						365																
Val	Val	Ser	Ser	Cys	Leu	Gly	Leu	Tyr	Ala	Pro	Leu	Pro	Pro	Gly	Ser																
			370						375						380																
Pro	Ala	Ala	Ala	Arg	Leu	His	Gly	Arg	Val	Ala	Ala	Ala	Phe	Gln	Val																
			385						390						395																400
Phe	Asn	Gly	Ile	Ser	Pro	Phe	Val	Lys	Phe	Ser	His	Phe	Thr	Ala	Asn																
				405					410						415																
Gln	Ala	Ile	Gln	Glu	Ala	Phe	Glu	Arg	Glu	Glu	Arg	Val	His	Ile	Ile																
			420						425						430																
Asp	Leu	Asp	Ile	Met	Gln	Gly	Leu	Gln	Trp	Pro	Gly	Leu	Phe	His	Ile																
			435						440						445																
Leu	Val	Ser	Arg	Pro	Gly	Gly	Pro	Pro	Arg	Val	Arg	Leu	Thr	Gly	Leu																
			450						455						460																
Gly	Ala	Ser	Met	Asp	Ala	Leu	Glu	Ala	Thr	Gly	Lys	Arg	Leu	Ser	Asp																
			465						470						475																480
Phe	Ala	Asp	Thr	Leu	Gly	Leu	Pro	Phe	Glu	Phe	Cys	Ala	Val	Ala	Glu																
				485					490						495																
Lys	Ala	Gly	Asn	Val	Asp	Pro	Gln	Lys	Leu	Gly	Val	Thr	Arg	Arg	Glu																
			500						505						510																
Ala	Val	Ala	Val	His	Trp	Pro	His	His	Ser	Leu	Tyr	Asp	Val	Ile	Gly																
			515						520						525																
Ser	Asp	Ser	Asn	Thr	Leu	Trp	Leu	Ile	Gln	Arg	Ser	Ser	Ile	Phe	Leu																
			530						535						540																
Leu	Cys	Leu	Ser	Ser	Met	Ser	Asn	Leu	Asp	Ala	Ile	Met	Thr	Thr	Phe																
			545						550						555																560

Gln Leu Leu Thr Leu Asp Asn Val Ser Phe Thr Ala Ser Ile Lys Ser
 565 570 575
 Trp Xaa Tyr Ile His Tyr Ser Tyr Phe Xaa Asn Ile Leu Arg Arg Phe
 580 585 590
 Pro Ala His Ser Lys Lys Lys Ser Arg Phe Glu Ala Gln Lys Ala Ile
 595 600 605
 Ser Ser Glu Val Cys Cys Xaa Ala Leu Phe Trp Lys Pro His Phe Leu
 610 615 620
 Asn Xaa Phe Leu Phe Phe Lys Glu Lys Leu Val His Phe Ser Leu Val
 625 630 635 640
 Lys Trp Ser Pro Lys Leu Thr Leu Ile Leu Lys Lys Thr Arg Phe Gly
 645 650 655
 Ala Gln Asn Ala Arg Cys Tyr Asp Gln Pro Ala Leu Xaa Val Xaa Lys
 660 665 670
 Gly Xaa Ile Leu Thr Met Leu Leu Lys Arg Leu Asn Leu Asp Asn Ala
 675 680 685
 Phe Glu Met Ile Leu Xaa Cys Ser Leu Xaa Trp Ser Ile Leu His Gly
 690 695 700
 Leu Trp Xaa Ser Arg Ile Pro Ala Ala Arg Gly Ile
 705 710 715

<210> 68
 <211> 426
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...426
 <223> n=a, c, g, or t

<400> 68

ctttgtcaat ggtaaagtag ctgaggcaga tagtttctat ccaaggagac ccttctcaga	60
gaatcgagc ttacatggtg gaaggtctag ctgcaagaat ggccgcttca ggaaaattca	120
tctacagagc attgaaatgc aaagagcctc cttcggaatga gaggcttgca gctatgagat	180
cctgtttgaa gtctgccctt gtttcaagtt cgggttttta gcagctaata gtgagatact	240
tgaagcaatc aaaggtgaag aagaagttca cataatcgat ttgatataa accaagggaa	300
ccaatacatg aactgatac gaagcattgc tgagttngcc tgggtaaacy acctcgctg	360
agggttaaaca ggaattgatg accctgaatc cagtnccaac cgctccattt gggggggcct	420
aaagaa	426

<210> 69
 <211> 343
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...343
 <223> n=a, c, g, or t

<400> 69

gagtacgatac ttaaagctat tcccgggtgac gcgattctca atcagttcgc tatcgattcg	60
gcttcttcgt ctaaccaagg cggcggagga gatacgtata ctacaaacaa gcggttgaaa	120
tgctcaaacg gcgtcgtgga aaccactaca gcgacggctg agatcaactc ggcattgtgt	180
cctggttgac tcgcaggaga acggtgtgag tctcgttcac gcgcttttgg cttgcgctga	240
aagctgttca gaaagagaat ctgactgtag cggantctgg tgaagcaaatt cggattctta	300
gccgtttctc aaatcggagc gatgagaaaa gtcgctactt act	343

<210> 70
 <211> 372
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...372
 <223> n=a, c, g, or t

<400> 70

aaatttttca attacctaataaataatgaaag ataagatctt aacaagtgc aaagggaaaa	60
acagtaggat ttagtttggc ttcgggtcgga aatctatcat cataaccggg tcaacagatc	120
aattcattga gccaccatct aattggtgag agtttccaag ccgaggtggc tatgagcggg	180
cgtgtgtgcc aaccaacat gagacagccg tcaactctct ccacccgata accctcaccg	240
ccgttgaaca gagccaaaag cataactcgt tgettaaacg cattcgaacc aatatgtgca	300
gccgcaaacc cagcagaccc gaaccggttc ctccantgac ttcaacgttt catgacgggt	360
caacttcggg ca	372

<210> 71
 <211> 399
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...399
 <223> n=a, c, g, or t

<400> 71

ttttttttta agtgagaacc ttaacaaatt taaccatttg aactgaaata tgaacatgta	60
aagactcatt cacacttagc aaatagggtt agaaccaaaa ctctaattat ttttatataa	120
tagggaaaaa aaagaaagaa aaattcttcc ataagtgtta gattagcttt tagtacctgt	180
gatcaccctt aacctctggt aataatacat ggagatgatt taaccagtta cacaataacc	240
caagattaca gtaaaaacat aattatgttt tatgaaacat aaagactata tgctcttgtc	300
acttatctta cctccaagct gaagcaacgg attaagcttt tctcctccca gcaaaaatgg	360
gagctcacc atttcttctt taagggtgta cttnttgca	399

<210> 72
 <211> 307
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...307
 <223> n=a, c, g, or t

<400> 72

gctatggaag gagagaagat ggttcatgtg attgatctcg atgcttctga gccagctcaa	60
tggcttgctt tgcttcaagc ttttaactct aggctgaag gtccacctca tttgagaatc	120
actggtgttc atcaccagaa ggaagtgtt gaacaaatgg ctcatagact cattgaggaa	180
gcagagaaac tcgatatccc gtttcagttt aatcccgttg tgagtaggtt agactgttta	240
aatgtagnac agtttagggg ttaaacagga gaggenttag ccgtagctc ggttcttcaa	300
ttgcata	307

<210> 73
 <211> 345
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1..345
 <223> n=a, c, g, or t

<400> 73

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ccgatcatca aattagttat cttcagctca aattggattt ggtttggtat tacaccaca      60
ccagacaaaa ttgaaccaac acacaaaaggc ttacatgca gaggcagtag aagcatttaa      120
gccaaaatag cataaagaga cagaaagtca ccatcacaaa acaactaaga ttgtgtcccc      180
atgtatacaa aaaagaaagg gactctgctc ataaccaaaa tagaagacaa actgtaatat      240
atcattcact tcctgcatct ccaagctgat accgagtata gaggtcgatc ttgccagcaa      300
attactgcgc acccgtctc ttccttgatt ctatacccat caaaa                        345
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<210> 74

<211> 406

<212> DNA

<213> *Arabidopsis thaliana*

<400> 74

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gtggaattac aattacagca atttgattc aattggtgaa tctaagcctg gttcatctc      60
tttggcctgg aacgatttac ctctcctcac tctttcttcc tggcgataac caaaccaaac      120
cgatccggta ttcttagttt tgttttgttt tcaatgttat ttttggttag acaaatattc      180
aattgttaat atactccgtg gtcagagtgt tttgttttcc ttttagttcg aacgttgaat      240
taattcaggg gtaggttttg aattctctga accttatgtg ttttttggtg acatcatttg      300
gatttggtgaa ctagggttaa aaactgggtc tagtcttggt gttttctcat tagataattt      360
aaactgggtt gttcttttat ttttggttg ggataaaagt gaccgg                        406
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<210> 75

<211> 406

<212> DNA

<213> *Arabidopsis thaliana*

<220>

<221> modified_base

<222> 1...406

<223> n=a, c, g, or t

<400> 75

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gtggaattnc aattacagca atttgattc aattggtgaa tctaagcctg gttcatctc      60
tttggcctgg aacgatttac ctctcctcac tctttcttcc angcgataac caaaccaaac      120
cgatgccggt attcttagtt ttgttttggt ttcaatgtta tttttggtta gacaaatatt      180
caattgttaa tatactccgt ggtcagagtg tttgttttn cttttagttc gaacgttgaa      240
```


ttaattcagg ggtaggtttt gaattctctg aacctnatgt gttttntggt aacatcattt	300
ggatttgtga actaggttta aaaactggnc ttagtcttgt tgttttctca ttaggataat	360
ttaaactggt ttgcttcttt attttngggt gggataaagt gaccgg	406

<210> 76
 <211> 409
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...409
 <223> n=a, c, g, or t

caaaactaca tttcatcact tttttgagca aaattacaaa taaaagagta gttacaaata	60
tatttggtt tcaacttctt aattttatga aatagtaatt acatctcaaa cagatgacca	120
gaaccggtca ctttatccaa ccaaaaataa agaagcaaac cagtttaaatt tatctaata	180
gaaaacaaca agactaagac cagtttttaa acctagtcca caaatccaaa tgatgttacc	240
aaaaaacaca taagggttcag agaattcaaa acctaccctt ganttaattc aacgttcgaa	300
ctaaaagaaa aacaaaacac tctgaccacg gagtatatta acatttgatt atttgtctaa	360
ccaaaataa cattgaaaac aaaacaaaac tanggaatac cggatcggt	409

<210> 77
 <211> 295
 <212> DNA
 <213> Arabidopsis thaliana

cccaacgggt cctgagcttc ttacttatat gcatatcttg tatgaagcct gcccttattt	60
caaattcggt tatgaatctg ctaatggagc tatagctgaa gctgtgaaga acgaaagttt	120
tgtgcacatt atcgatttcc agatttctca aggtgggtcaa tgggtgagtt tgatccgtgc	180
tcttggtgct agacctggtg gacctccgaa cgtaggata acgggaattg atgatccgag	240
atcatcgttt gctcgtcaag gaggacttgc agttagttgc acaaagcact tggca	295

<210> 78
 <211> 319
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...319
 <223> n=a, c, g, or t

 <400> 78

 gggtcaccaa catatcactt actactacaa catttgacaa cttgttcctn cggatcatgc 60
 atgagtttta cttttacaaa cagattctgc aaactttaaa agcaagtffc taatctcttc 120
 tgaaaccgaa caagggtttt attagttacc tccaagcaca agaagtgata agaggttgat 180
 tcttccatcc taaatacaat gctccatctc tttcttcaag tgtatacttc tctgaataac 240
 tctcaagcaa tccttttgatt gttgcgttca catacgagct caaaggatac ggttttaaate 300
 ccgccatgtg aaaccgaga 319

<210> 79
 <211> 409
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1..409
 <223> n=a, c, g, or t

 <400> 79

 caaaaattta tatatttggtg tgaacttaaa tttaaaaatc catcgactg agcaaaataa 60
 nntcagaaac taaaaatttg tcatttaaga taaattgaat taaggaaaat atttttttta 120
 taattgaaac tccgggtggaa atcaggagga gcgacatctc catgctgaaa ctccgacgag 180
 ttctgtcctt tgccaacata ggagaagtga gttatgtttc tcctcgacgt gaaagcctct 240
 cactggcgtc cgttggntna aacactcggc ttgagactcc gtgaagttac tgtgcgtcac 300
 cggtgagaaa cccatctgta gaaacatcgc ttgccacgtc atcatcggcc tttctatcgg 360
 acggctacga tccaacacca gtttctctat ctccggctgt ataaggaaa 409

<210> 80
 <211> 457
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1..457
 <223> n=a, c, g, or t

<400> 80

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ctatttttnac aattttat ttt gttatttagaa gtggtagtgg agtgaaaaaa caaatcctaa      60
gcagtcctaa ccgatccccg aagctaaaga ttctncacct tcccaaataa agcaaacct      120
agatccgaca ttgaaggaaa aaccttttag atccatctct gaaaaaaacc aaccatgaag      180
agagatcatc atcatcatca tcatcaagat aagaagacta tgatgatgaa tgaagaagnc      240
gacggtaacg gcatggatga gcttctagct gttcttggtt ataaggttag gtcatecgaa      300
atggctgatg tttgctcaga aactcgagca gcttgaagtt atgatgtcta atgttcaagn      360
aagncggtct ttntcaactt cgcnaactnn gactgttcac tntaatncgg cggnggtttt      420
caacgntggc ttgntttcna tgntnaccga ccttaat      457
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<210> 81

<211> 355

<212> DNA

<213> *Arabidopsis thaliana*

<220>

<221> modified_base

<222> 1...355

<223> n=a, c, g, or t

<400> 81

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atgggaaagg agcatttaat ctcgactcaa ttgctctacg agctctctcc ttgtttcaaa      60
ctcgggtttcg aggccgcgaa tctcgccatt ntcgacgccg ccgataacaa cgacgggtgga      120
atnatgatac cgcacgtaat cgatttcaat atcggagaag gtggacaata cgttaacctt      180
ctccntacat tatccacgcg ccggaatggt aaaagtnaga gtcagaattc tccggtggtt      240
aanatcaccc gccgtggcga acaacgttta cgggatgttt agtcggatga cgggtggnga      300
agagagggttt aaaagcccg t ncnngntttt ttttnagcc actncngntn atccg      355
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<210> 82

<211> 381

<212> DNA

<213> *Arabidopsis thaliana*

<220>

<221> modified_base

<222> 1...381

<223> n=a, c, g, or t

<400> 82

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actcggatc tccgtaagtt tcaacgtggt gacgagttta cgactcgggtg atctgaatcg      60
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tnaatctntc ggggtgtnatc ccgacgagac tttggctgta aacttagctt tcaagcttta	120
tcgtgttccc gacgaaagcg tatncacgga gaatccaaga cgaacttctc cggcgcggtga	180
agggacttaa accgcgcgtg gttactctag tggagcaaga aatgaattcg aatacggcgc	240
cgttttttagg gagagtaagt nagtcatgcg cgtttnacgg tgcgttnctt gantcggtcg	300
agtctacggt tcctagtacg gatttccgac ccgtgccaaa atttnnnggaa ggaatttgcc	360
cgnaannttn naaacccgggt g	381

<210> 83
 <211> 533
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1.533
 <223> n=a, c, g, or t

<400> 83

atnaaaagtc tttttttttt ctttgttaca taagattcct acacttttcg aaatggaaaa	60
tcacaatgat aataatatca gaataatctc gaaaattaat aataatatgg taataataag	120
aagaaaaaaa aagagtgtgt gaagttaacg ccaagcggat gcgacagtga gtgcccgtcc	180
catccaacca aagcacacac ctccgttata ttctttaacg gtaaagcccg ggtggactcg	240
gtttccacga ctcttcacg actccgctat cttctcactc aatggcatta actcaaacc	300
agccatgctc atccgcattc gccatttncc ggaacanctc gnaccgctct atacgntcga	360
ttccttcgga cggcaccgng ttttactagc ttccggncaa ttccttcctn aactttggaa	420
cggtnnggatt cgttcttggg accgtaggct tggcccgtct aagaacgnac cgtacagggg	480
nntgttttnt taatttcctt taaaaggggg cgnttttggg ttnatttttn ana	533

<210> 84
 <211> 377
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...377
 <223> n=a, c, g, or t

<400> 84

caaccntttt atagtcaagc agctctcaac gctttttttt caaggtctgt naagcctcga	60
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aattatcaga ntttncaatc tccgtcgccg atgattganc tcacgtcggg gaatgatatg	120
agtttntttg gnggttcttg ttcattctcag cnttacgggt taccggttcc caggtctcan	180
acgcaacagc aacaatcgga ttacgggttta tttggtggga tccgaatggg aatcgggtcg	240
ggtattaata attatccaac attaacgggc gttccgtgta ttgaaccggg tcaaaaccgg	300
gttcatgaat cggaggacca ttgttganta agnttaagag agctttgtng aaacaanctt	360
tttangattg atnaccg	377

<210> 85
 <211> 508
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...508
 <223> n=a, c, g, or t

<400> 85

tgcatacaac gcaccgtttt tcgtaacacg gtttcgcgaa gtctatttca tttctcctcg	60
atttttgaca tgcttgagac aattgtgcca cgagaagacg aagagaggat gttccttgag	120
atggagggtct ttgggagaga ggcaactgaat gtaattgctt gcnaagggtg ggaaagagtg	180
gagaggcctg agacatacaa gcagtggcac gtacgggcta tgaggtcagg gttggtgcag	240
gttccatttg acccaagcat tatgaagaca tcgctgcata aggtccacac attctaccac	300
aaggattttg tgatcggcca aagataaccg ggtggctctt tcaaggntgg aaggggaagg	360
anctgtcatg ggtctttctt ttttgaaaac cagagtccca aggttttncc ggaaaaatcct	420
ccttggnat ttngncccc ttttttggt ttttncccn gnnantccc nggggnagtt	480
tccagtttna ggngngtttt tncnaaaa	508

<210> 86
 <211> 466
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...466
 <223> n=a, c, g, or t

<400> 86

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atTTTTgaca tgcttganac aattgtnecca cgagaagacg aagagaggat gttccttgan	120
atggagggtct ttggggagana ggcactgaat gtaattnctt gcnaagggtg ggaaagagtg	180
gagaggcctg anacatacaa gcagtggcac gtacgggcta tgaggtcagg gttggtgcag	240
gttccatttg acccaagcat tatgaagaca tcgctgcata aggtccacac attctaccac	300
aagggttttt tgatccntcc aagataaccg gtgggtcttn caaagctttg aagggaagga	360
cctttcatgg gtcttttctt ttttggaacc aggtcccaag gttttncccg gaatccccgn	420
tggaattttg nnnccccctt tgattttttt tccccgnaa ttcccc	466

<210> 87
 <211> 342
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...342
 <223> n=a, c, g, or t

<400> 87

gagacggtag atccgncgcg ctaaagcttc ggcgaagtaa gtagccactt tnntnatagc	60
tccggcttga nacacagcta agcatccnat ttgcttcaca agagcttccg ctagagtcaa	120
attgtnctnc tggattgctt ctgcacaagc cataagcgcg tggactaaac gaacaccgtt	180
ctcttgcgag tnaaccagga taacagaacg anttgactca gccgccgccg tcgttgctcg	240
gggtggttgtc gtcaccgtcg ttcctatgac tccaccaatn tgggtacccg tcgaagtcca	300
tgtaaccata ggatcagggc ttcgngcatg nttttaaaac gg	342

<210> 88
 <211> 321
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...321
 <223> n=a, c, g, or t

<400> 88

gtttgattcg ttggaaggag ttccgaatag tcaagacaaa gtcattntctg aagtttactt	60
agggaaacag atttgtaatc nggtggcttg tnaagntcct gacagagtcg agagacacga	120

aacgttgagt caatngggaa accggtttgg ttcgtccggt ttagcgccgg cacatcttgg	180
gtctaacgcg tttaagcaag cnagtatnct tttntntgtn tttaatagtg gccaaaggta	240
tcgtgtggag gagagtaatg gatgtttgat gttgggttgg cacactnngc ccactcattt	300
accacctccg gttttggaaa c	321

<210> 89
 <211> 490
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...490
 <223> n=a, c, g, or t

<400> 89

taaaaattga tcccaaaaag gcataaatta aaaatgacct accaaaaacga tatatataag	60
aatttttaaac aagtgaacga aaataaataa aataaacaaa aggcaaaacg gttcgattca	120
gttcggttta ggtcttggtc cgaacatatg tcatcaccgg tccactgatc tcaatctcaa	180
attcactcgn ctcgactcca ccaccgtcgt atgcttcgag tcaaactcag tacgncgccg	240
tcgagagttt ccaagcggag gtggtaatga gtggacgagt gtgccaaccc ancatcaaac	300
atccattact ttcctccaca cgntaacctt ggccactatt taaacacagg caaaaangcat	360
acttgtttgc ttaaaccgcg ttagncnaa gntttgccgg gcgntaaacc cggcngaccc	420
aanccggnnt tcccnatttg ctcaaacggt ttngtgnctt ttggtttttt gnatggcctt	480
taaangnncc	490

<210> 90
 <211> 422
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...422
 <223> n=a, c, g, or t

<400> 90

aaaaaatggg aaaccatcac tcttgatgaa cttatgatca atccaggaga gacaacggtc	60
gtcaacngca ttcacggtt acaatacacn cctgatgaaa ctgtgtcatt agactctcca	120
agagacacgg ttctgaagct attcagagat atcaatcctg acctctttgt gtttgcagag	180

attaacggaa tgtacaactc tcctttcttc atgacgaggt tccgagaagc gcttttncat	240
tacncttcac tctttgacat gtttgacacc acaatacacg gagaggatga gtacaaaaac	300
aggtcactgt ttggagagag agttactttt gaganacgcg nttgagcgtg attttctgc	360
nngggnttca nancgggttt tnngggcctt aaaacctnca agaaatnggn ggtttgggtt	420
tt	422

<210> 91
 <211> 234
 <212> DNA
 <213> Arabidopsis thaliana

aatcaatggt ttggttatat ttcattacta gcaaccacc cacaaccaca tgacaattta	60
caagagaaaa acaaccacca ggtttggttt gtatacatat ataacttagg ttgtgttaca	120
acttaaaaca tcattgcaca tcctaaaaat ttcagcgacc agaattgtgt tttgattgtg	180
cctctttctt tatccacctc aagtaaccat cattcactat aacttaccca atct	234

<210> 92
 <211> 466
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...466
 <223> n=a, c, g, or t

gcgaatgttg agatcttgga agcaatagct ggggaaacca gagtccacat tatcgatttt	60
aagattgcac agggatcaca atacatgttt ttaattcagg agcttgcgaa acgccctggt	120
gggccgccgt tgctgcgtgt nacgggtgtg gatgattcan agtccaccta tgctcgtggg	180
ggaggactca gcttggttagg tgagaggctt gcaactttgg cgcagtcacg tgggtgtccc	240
tttnagtttc acgatgccat catgtctggg tgcaagggtgc agcgggaaca tctcgggttg	300
gaacctggct ttgctgttgt tgtgaacttc ccatatgtat tacaccacat gccagacgag	360
agcgtaagtt tttgaaaatc acagngacag gcttctgcat ctnatcaana gcctttcccc	420
aaactggtac tctagtaggc aagattcaac acaacacttg catcna	466

<210> 93
 <211> 534

<212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> modified_base
 <222> 1...534
 <223> n=a, c, g, or t

 <400> 93

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 acacgctatg tcacaagcat aatataacaa cattctagtg ttcaagaacc ctaactctga 120
 acttaatcca ctcggtgttg cgagagacta tcaacagaaa agccctacat aaatcccagt 180
 cgcttagaac gtaaganaca acatctatga agacgaagga acccatagag atgaagcata 240
 cacgattcta cctttccacc cttgaagtaa ccagttaccg ttttgatcaa catcgaagtt 300
 tttatcgtac ccgttttcgg attttcaact tcagattctg catcagttcc ttctcaagcg 360
 gnagctgtcc taaatccggg tcgggtcagt ctgggtggc actgggtata tggctctggg 420
 ctctccactc tctctggtct tcacaaggca cancattcac aatctntttt ccataaaaact 480
 nnttttcntn catnngncnn atnttggett cctnggntg gttgggggnc ncnt 534

<210> 94
 <211> 476
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> modified_base
 <222> 1...476
 <223> n=a, c, g, or t

 <400> 94

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 ctttattaga tattaacgac tctggatttt tgggtttttg gagttggatc cacatgggtt 120
 cttatccgga tggattccct ggatccatgg acgagttgga tttcaataag gactttgatt 180
 tgccctccctc ctcaaaccac accttaggtt tagctaattg gttctattta gatgacttag 240
 atttctcatc cttggatcct ccagaggcat atccctccca gaacaacanc aacaacatca 300
 tcaacaacaa agctgtagca ggagatctgt tatcatcttc aactgaatga cgntggattc 360
 tctgattctg ttttgagtat ataagccaag ttctnatggg agnnggtnat gnagagaagc 420
 ctttgtatgt tcatgnngnt ttggtgnatta agntgctnng aaannactcn ntngnc 476

<210> 95
 <211> 3510
 <212> DNA
 <213> Zea mays

<220>
 <221> CDS
 <222> (293)...(1855)

<221> CDS
 <222> (2703)...(3143)

<400> 95

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ccggactgac tgactgactg tgggtggtggt ggtgcatcag cagcccgcgc ggcgcacaaa	120
cacgcaaact gctccctccc tcactcaccc ctatcccccg cgctgggtcg cccgatcgcc	180
atgcgcgcgg cggttctctc ttggcgtttc tagatgggct cctcctctctc cctcctcttc	240
tcctcgctct cctcgcgcgc atccaccgcc cccactcct ttccccactc tc atg cca	298
	Met Pro
	1
ccg cca ccg cct ccg cct cct ctc act cct tat tgc cgc cgc tgc cct	346
Pro Pro Pro Pro Pro Pro Pro Leu Thr Pro Tyr Cys Arg Arg Cys Pro	
5 10 15	
ccc cca cac ctc cct ccg cct cct cct tct tcc cca aac cac ttc ctc	394
Pro Pro His Leu Pro Pro Pro Pro Pro Ser Ser Pro Asn His Phe Leu	
20 25 30	
ctc cac tac ctc cat cag cta gac cac caa gaa gcc gcc gcc gcc gcc	442
Leu His Tyr Leu His Gln Leu Asp His Gln Glu Ala Ala Ala Ala Ala	
35 40 45 50	
atg gtc cgc aag cgc ccc gcg tcc gac atg gac ctc ccg ccg ccg cgc	490
Met Val Arg Lys Arg Pro Ala Ser Asp Met Asp Leu Pro Pro Pro Arg	
55 60 65	
cgc cac gtc acg ggc gac ctc tcc gac gtc acg gcg gcc gct gcc gcc	538
Arg His Val Thr Gly Asp Leu Ser Asp Val Thr Ala Ala Ala Ala Ala	
70 75 80	
ggt gtt ggt ggt agt ggc gcg ccg tcc tcc gcc agc gcg cag ctg ccc	586
Gly Val Gly Gly Ser Gly Ala Pro Ser Ser Ala Ser Ala Gln Leu Pro	
85 90 95	
gcg ctg ccc acc cag ctc cac cag ctg ccc ccc gcg ttc cag cac cac	634
Ala Leu Pro Thr Gln Leu His Gln Leu Pro Pro Ala Phe Gln His His	
100 105 110	
gcg ccg gag gtg gac gtg ccc gcg cac ccg gcc ccg gcc gcc cac gcg	682
Ala Pro Glu Val Asp Val Pro Ala His Pro Ala Pro Ala Ala His Ala	
115 120 125 130	

cag gcg ggc ggc gag gca acc gcg tcc acg acc gcg tgg gtg gac ggc Gln Ala Gly Gly Glu Ala Thr Ala Ser Thr Thr Ala Trp Val Asp Gly 135 140 145	730
atc atc cgc gac atc atc ggg agc agc ggc ggc gcc gcg gtc tcc atc Ile Ile Arg Asp Ile Ile Gly Ser Ser Gly Gly Ala Ala Val Ser Ile 150 155 160	778
acg cag ctc atc cac aac gtc cgc gag atc atc cac ccc tgc aac ccc Thr Gln Leu Ile His Asn Val Arg Glu Ile Ile His Pro Cys Asn Pro 165 170 175	826
ggc ctc gcg tgc ctc ctg gag ctc cgc ctc cgc tcc ctc ctc gca gcc Gly Leu Ala Ser Leu Leu Glu Leu Arg Leu Arg Ser Leu Leu Ala Ala 180 185 190	874
gac ccg gcc cca ctg ccg ccg ccg ccg cag ccg cag cag cat gct ctc Asp Pro Ala Pro Leu Pro Pro Pro Pro Gln Pro Gln Gln His Ala Leu 195 200 205 210	922
ctg cac ggc gct ccg gcc gcc gct ccc gcg ggg ctg acg ctc cct ccc Leu His Gly Ala Pro Ala Ala Ala Pro Ala Gly Leu Thr Leu Pro Pro 215 220 225	970
ccg cca ccg ctt ccg gac aag cgc cgc cac gag cat cca ccg ccg tgc Pro Pro Pro Leu Pro Asp Lys Arg Arg His Glu His Pro Pro Pro Cys 230 235 240	1018
cag cag caa cag cag gag gaa ccg cat ccg gcg ccg cag tgc ccc aag Gln Gln Gln Gln Gln Glu Glu Pro His Pro Ala Pro Gln Ser Pro Lys 245 250 255	1066
gcc ccg acc gcg gaa gag acc gca gcg gcg gcc gcc gcc gca caa gca Ala Pro Thr Ala Glu Glu Thr Ala Ala Ala Ala Ala Ala Gln Ala 260 265 270	1114
gca gct gct gcg gcc gcc aag gag cgg aag gag gag cag cgg cgg aag Ala Ala Ala Ala Ala Lys Glu Arg Lys Glu Glu Gln Arg Arg Lys 275 280 285 290	1162
cag cgc gac gag gag ggc ctc cac ctg ctg acg ctg ctg ctg cag tgc Gln Arg Asp Glu Glu Gly Leu His Leu Leu Thr Leu Leu Leu Gln Cys 295 300 305	1210
gcc gag gcc gtg aac gcg gac aac ctg gac gac gcg cac cag acg ctg Ala Glu Ala Val Asn Ala Asp Asn Leu Asp Asp Ala His Gln Thr Leu 310 315 320	1258
ctg gag atc gcg gag cta gcg acg ccg ttc ggc acc tgc acg cag cgc Leu Glu Ile Ala Glu Leu Ala Thr Pro Phe Gly Thr Ser Thr Gln Arg 325 330 335	1306
gtg gcc gcc tac ttc gcg gag gcc atg tgc gcg cgg ctc gtc agc tcc Val Ala Ala Tyr Phe Ala Glu Ala Met Ser Ala Arg Leu Val Ser Ser 340 345 350	1354
tgc ctg ggc ctg tac gcg ccg ctg ccg ccg ggc tcc ccc gcc gcg gcg Cys Leu Gly Leu Tyr Ala Pro Leu Pro Pro Gly Ser Pro Ala Ala Ala	1402

355	360	365	370	
cgc ctc cac ggc	cgc gtc gcc gcc gcg ttc	cag gtg ttc aac ggc atc		1450
Arg Leu His Gly	Arg Val Ala Ala Ala Phe	Gln Val Phe Asn Gly Ile		
	375	380	385	
agc ccc ttc gtc	aag ttc tcg cac ttc acc gcc aac cag gcc atc cag		1498	
Ser Pro Phe Val	Lys Phe Ser His Phe Thr Ala Asn Gln Ala Ile Gln			
	390	395	400	
gag gcg ttc gag	cgg gag gag cgc gtg cac atc atc gac ctc gac atc		1546	
Glu Ala Phe Glu	Arg Glu Glu Arg Val His Ile Ile Asp Leu Asp Ile			
	405	410	415	
atg cag ggg ctg	cag tgg ccg ggg ctc ttc cac atc ctt gcc tcc cgc		1594	
Met Gln Gly Leu	Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser Arg			
	420	425	430	
ccc ggg ggc ccg	ccc agg gtg agg ctc acc gcc ctc ggg gcg tcc atg		1642	
Pro Gly Gly Pro	Pro Arg Val Arg Leu Thr Gly Leu Gly Ala Ser Met			
	435	440	445	450
gag gcg ctc gag	gcc acg ggg aag cgc ctc tcc gat ttc gcc gac acg		1690	
Glu Ala Leu Glu	Ala Thr Gly Lys Arg Leu Ser Asp Phe Ala Asp Thr			
	455	460	465	
ctc ggc ctg ccc	ttc gag ttc tgc gcc gtc gcc gag aag gcc ggc aat		1738	
Leu Gly Leu Pro	Phe Glu Phe Cys Ala Val Ala Glu Lys Ala Gly Asn			
	470	475	480	
gtt gac ccg gag	aag cta ggg gtc acg agg ccg gag gcc gtc gcc gtc		1786	
Val Asp Pro Glu	Lys Leu Gly Val Thr Arg Arg Glu Ala Val Ala Val			
	485	490	495	
cac tgg ctg cac	cac tcg ctc tac gac gtc act ggc tcc gac tcc aac		1834	
His Trp Leu His	His Ser Leu Tyr Asp Val Thr Gly Ser Asp Ser Asn			
	500	505	510	
acg ctc tgg ctc	atc caa agg taggaaggag tacaccatct ctcgatcctg		1885	
Thr Leu Trp Leu	Ile Gln Arg			
	515	520		
acttccttgc	taccatgtca aatcttgatg caatcatggc cacttttcag ctactaacac		1945	
tttagtttag	ccaatgcgac atccagtaca actaatctaa aaaaataatc ttcagagggtt		2005	
tcctagtaaa	aaaaccgcgt ttttgagct caaaaagctt gtcattatga ccaaccaact		2065	
ttctaggctt	aaaaagggttg aatcttggca atgcttttga gacgatgctg tactgaagta		2125	
ctggtagaga	gagtatcctc catggccttt gttgatccca gaaccacaaa agataggtatt		2185	
tcgctcgcat	ttggttagtg gaggtgttct gatcatcact tggaggatgg agctgaaagt		2245	
tcctatcatc	atgaccaact ttccatggca aaaggtttct agttccaagt ggcaggacga		2305	
tgattactga	gtgactgaat ggagtaactg tcattcttcta ccactaacca tcatttatta		2365	

atacataaat catcatccgg agcctaaact cagaaaggct aatcaaaagt gcaatctttc	2425
tcaaattggct gccatatgcc agtggtacat gcctggccat tgtacttttt cggtgaacca	2485
tctcgtctca agcatgagat gaaggcctga actgcaatgt ccttgatttg atgcaaccat	2545
tattagaaga aacgctaagc gatgccggtc ctggcaaggg caatgccata tcgtcagaca	2605
gacaggggatt cggaatcgaa tggctagctg gtgacaaatc gcacggggat taataaacta	2665
cattgggtcat tgattccatc cccacacac ctgcagg ctg gcc ccc aag gtg gtg	2720
Leu Ala Pro Lys Val Val	525
aca atg gtg gag cag gac ctg agc cac tcg ggc tcc ttc ctg gcg cgc	2768
Thr Met Val Glu Gln Asp Leu Ser His Ser Gly Ser Phe Leu Ala Arg	
530 535 540	
ttc gtg gag gcc atc cac tac tac tcg gcg ctg ttc gac tcg ctg gac	2816
Phe Val Glu Ala Ile His Tyr Tyr Ser Ala Leu Phe Asp Ser Leu Asp	
545 550 555	
gcg agc tac ggc gag gac agc ccc gag cgg cac gtc gtg gag cag cag	2864
Ala Ser Tyr Gly Glu Asp Ser Pro Glu Arg His Val Val Glu Gln Gln	
560 565 570 575	
ctg ctg tcg cgg gag atc cgc aac gtg ctg gcc gtg ggc ggg ccg gcc	2912
Leu Leu Ser Arg Glu Ile Arg Asn Val Leu Ala Val Gly Gly Pro Ala	
580 585 590	
cgc acc ggc gac gtc aag ttc ggc agc tgg cgc gag aag ctg gcg cag	2960
Arg Thr Gly Asp Val Lys Phe Gly Ser Trp Arg Glu Lys Leu Ala Gln	
595 600 605	
tcc ggg ttc cgc gcc gcc tcg ctc gcc ggc agc gcc gcg gcg cag gcg	3008
Ser Gly Phe Arg Ala Ala Ser Leu Ala Gly Ser Ala Ala Ala Gln Ala	
610 615 620	
tcc ctg ctg ctc ggc atg ttc ccc tcc gac ggg tac acg ctg gtg gag	3056
Ser Leu Leu Leu Gly Met Phe Pro Ser Asp Gly Tyr Thr Leu Val Glu	
625 630 635	
gag aac ggc gcg ctg aag ctc ggg tgg aag gac ctc tgc ctg ctc acc	3104
Glu Asn Gly Ala Leu Lys Leu Gly Trp Lys Asp Leu Cys Leu Leu Thr	
640 645 650 655	
gcg tcg gcc tgg cgc ccc atc cag gtg ccg ccg tgc cgt tgatgagacc	3153
Ala Ser Ala Trp Arg Pro Ile Gln Val Pro Pro Cys Arg	
660 665	
tctgcctgct cctgcttgcg ttgagaggcc gccactccac ttgttttgca tctgtagctg	3213
ctcgggtttgg tcatcagctg ggagataaga aaagcgga aaagcgga cgtactaatt gctctggagt	3273
agatccatcc attcacagtg atagttactg atgtactaag ctttaattag ttcaatgcta	3333

gatcgttcctt gttcaggtgt cgatcgcgta tccttgctcct tggctctcctt ttcattttgg 3393
 tgctttgtct agtcgctttc ccgactaatg ccgtgctcctt catgcgcggt ctagtgaaga 3453
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<210> 96
 <211> 668
 <212> PRT
 <213> Zea mays

<400> 96

Met	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Leu	Thr	Pro	Tyr	Cys	Arg	Arg	1	5	10	15
Cys	Pro	Pro	Pro	His	Leu	Pro	Pro	Pro	Pro	Pro	Ser	Ser	Pro	Asn	His	20	25	30		
Phe	Leu	Leu	His	Tyr	Leu	His	Gln	Leu	Asp	His	Gln	Glu	Ala	Ala	Ala	35	40	45		
Ala	Ala	Met	Val	Arg	Lys	Arg	Pro	Ala	Ser	Asp	Met	Asp	Leu	Pro	Pro	50	55	60		
Pro	Arg	Arg	His	Val	Thr	Gly	Asp	Leu	Ser	Asp	Val	Thr	Ala	Ala	Ala	65	70	75	80	
Ala	Ala	Gly	Val	Gly	Gly	Ser	Gly	Ala	Pro	Ser	Ser	Ala	Ser	Ala	Gln	85	90	95		
Leu	Pro	Ala	Leu	Pro	Thr	Gln	Leu	His	Gln	Leu	Pro	Pro	Ala	Phe	Gln	100	105	110		
His	His	Ala	Pro	Glu	Val	Asp	Val	Pro	Ala	His	Pro	Ala	Pro	Ala	Ala	115	120	125		
His	Ala	Gln	Ala	Gly	Gly	Glu	Ala	Thr	Ala	Ser	Thr	Thr	Ala	Trp	Val	130	135	140		
Asp	Gly	Ile	Ile	Arg	Asp	Ile	Ile	Gly	Ser	Ser	Gly	Gly	Ala	Ala	Val	145	150	155	160	
Ser	Ile	Thr	Gln	Leu	Ile	His	Asn	Val	Arg	Glu	Ile	Ile	His	Pro	Cys	165	170	175		
Asn	Pro	Gly	Leu	Ala	Ser	Leu	Leu	Glu	Leu	Arg	Leu	Arg	Ser	Leu	Leu	180	185	190		
Ala	Ala	Asp	Pro	Ala	Pro	Leu	Pro	Pro	Pro	Pro	Gln	Pro	Gln	Gln	His	195	200	205		
Ala	Leu	Leu	His	Gly	Ala	Pro	Ala	Ala	Ala	Pro	Ala	Gly	Leu	Thr	Leu	210	215	220		
Pro	Pro	Pro	Pro	Pro	Leu	Pro	Asp	Lys	Arg	Arg	His	Glu	His	Pro	Pro	225	230	235	240	

Pro Cys Gln Gln Gln Gln Gln Glu Glu Pro His Pro Ala Pro Gln Ser
 245 250 255
 Pro Lys Ala Pro Thr Ala Glu Glu Thr Ala Ala Ala Ala Ala Ala Ala
 260 265 270
 Gln Ala Ala Ala Ala Ala Ala Ala Lys Glu Arg Lys Glu Glu Gln Arg
 275 280 285
 Arg Lys Gln Arg Asp Glu Glu Gly Leu His Leu Leu Thr Leu Leu Leu
 290 295 300
 Gln Cys Ala Glu Ala Val Asn Ala Asp Asn Leu Asp Asp Ala His Gln
 305 310 315 320
 Thr Leu Leu Glu Ile Ala Glu Leu Ala Thr Pro Phe Gly Thr Ser Thr
 325 330 335
 Gln Arg Val Ala Ala Tyr Phe Ala Glu Ala Met Ser Ala Arg Leu Val
 340 345 350
 Ser Ser Cys Leu Gly Leu Tyr Ala Pro Leu Pro Pro Gly Ser Pro Ala
 355 360 365
 Ala Ala Arg Leu His Gly Arg Val Ala Ala Ala Phe Gln Val Phe Asn
 370 375 380
 Gly Ile Ser Pro Phe Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala
 385 390 395 400
 Ile Gln Glu Ala Phe Glu Arg Glu Glu Arg Val His Ile Ile Asp Leu
 405 410 415
 Asp Ile Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala
 420 425 430
 Ser Arg Pro Gly Gly Pro Pro Arg Val Arg Leu Thr Gly Leu Gly Ala
 435 440 445
 Ser Met Glu Ala Leu Glu Ala Thr Gly Lys Arg Leu Ser Asp Phe Ala
 450 455 460
 Asp Thr Leu Gly Leu Pro Phe Glu Phe Cys Ala Val Ala Glu Lys Ala
 465 470 475 480
 Gly Asn Val Asp Pro Glu Lys Leu Gly Val Thr Arg Arg Glu Ala Val
 485 490 495
 Ala Val His Trp Leu His His Ser Leu Tyr Asp Val Thr Gly Ser Asp
 500 505 510
 Ser Asn Thr Leu Trp Leu Ile Gln Arg Leu Ala Pro Lys Val Val Thr
 515 520 525
 Met Val Glu Gln Asp Leu Ser His Ser Gly Ser Phe Leu Ala Arg Phe
 530 535 540
 Val Glu Ala Ile His Tyr Tyr Ser Ala Leu Phe Asp Ser Leu Asp Ala

Asp Gly Ile Ile Arg Asp Ile Ile Gly Ser Ser Gly Gly Ala Ala Val
 145 150 155 160
 Ser Ile Thr Gln Leu Ile His Asn Val Arg Glu Ile Ile His Pro Cys
 165 170 175
 Asn Pro Gly Leu Ala Ser Leu Leu Glu Leu Arg Leu Arg Ser Leu Leu
 180 185 190
 Ala Ala Asp Pro Ala Pro Leu Pro Pro Pro Pro Gln Pro Gln Gln His
 195 200 205
 Ala Leu Leu His Gly Ala Pro Ala Ala Ala Pro Ala Gly Leu Thr Leu
 210 215 220
 Pro Pro Pro Pro Pro Leu Pro Asp Lys Arg Arg His Glu His Pro Pro
 225 230 235 240
 Pro Cys Gln Gln Gln Gln Gln Glu Glu Pro His Pro Ala Pro Gln Ser
 245 250 255
 Pro Lys Ala Pro Thr Ala Glu Glu Thr Ala Ala Ala Ala Ala Ala Ala
 260 265 270
 Gln Ala Ala Ala Ala Ala Ala Ala Lys Glu Arg Lys Glu Glu Gln Arg
 275 280 285
 Arg Lys Gln Arg Asp Glu Glu Gly Leu His Leu Leu Thr Leu Leu Leu
 290 295 300
 Gln Cys Ala Glu Ala Val Asn Ala Asp Asn Leu Asp Asp Ala His Gln
 305 310 315 320
 Thr Leu Leu Glu Ile Ala Glu Leu Ala Thr Pro Phe Gly Thr Ser Thr
 325 330 335
 Gln Arg Val Ala Ala Tyr Phe Ala Glu Ala Met Ser Ala Arg Leu Val
 340 345 350
 Ser Ser Cys Leu Gly Leu Tyr Ala Pro Leu Pro Pro Gly Ser Pro Ala
 355 360 365
 Ala Ala Arg Leu His Gly Arg Val Ala Ala Ala Phe Gln Val Phe Asn
 370 375 380
 Gly Ile Ser Pro Phe Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala
 385 390 395 400
 Ile Gln Glu Ala Phe Glu Arg Glu Glu Arg Val His Ile Ile Asp Leu
 405 410 415
 Asp Ile Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala
 420 425 430
 Ser Arg Pro Gly Gly Pro Pro Arg Val Arg Leu Thr Gly Leu Gly Ala
 435 440 445
 Ser Met Glu Ala Leu Glu Ala Thr Gly Lys Arg Leu Ser Asp Phe Ala

450		455		460
Asp Thr Leu Gly Leu Pro Phe Glu Phe Cys Ala Val Ala Glu Lys Ala				
465		470		480
Gly Asn Val Asp Pro Glu Lys Leu Gly Val Thr Arg Arg Glu Ala Val				
	485		490	495
Ala Val His Trp Leu His His Ser Leu Tyr Asp Val Thr Gly Ser Asp				
	500		505	510
Ser Asn Thr Leu Trp Leu Ile Gln Arg				
	515		520	

<210> 98
 <211> 147
 <212> PRT
 <213> Zea mays

<400> 98

Leu Ala Pro Lys Val Val Thr Met Val Glu Gln Asp Leu Ser His Ser				
1	5		10	15
Gly Ser Phe Leu Ala Arg Phe Val Glu Ala Ile His Tyr Tyr Ser Ala				
	20		25	30
Leu Phe Asp Ser Leu Asp Ala Ser Tyr Gly Glu Asp Ser Pro Glu Arg				
	35		40	45
His Val Val Glu Gln Gln Leu Leu Ser Arg Glu Ile Arg Asn Val Leu				
	50		55	60
Ala Val Gly Gly Pro Ala Arg Thr Gly Asp Val Lys Phe Gly Ser Trp				
65		70	75	80
Arg Glu Lys Leu Ala Gln Ser Gly Phe Arg Ala Ala Ser Leu Ala Gly				
	85		90	95
Ser Ala Ala Ala Gln Ala Ser Leu Leu Leu Gly Met Phe Pro Ser Asp				
	100		105	110
Gly Tyr Thr Leu Val Glu Glu Asn Gly Ala Leu Lys Leu Gly Trp Lys				
	115		120	125
Asp Leu Cys Leu Leu Thr Ala Ser Ala Trp Arg Pro Ile Gln Val Pro				
	130		135	140
Pro Cys Arg				
145				

<210> 99
 <211> 668
 <212> PRT
 <213> Zea mays

<400> 99

Met	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Leu	Thr	Pro	Tyr	Cys	Arg	Arg	1	5	10	15
Cys	Pro	Pro	Pro	His	Leu	Pro	Pro	Pro	Pro	Pro	Ser	Ser	Pro	Asn	His		20	25	30	
Phe	Leu	Leu	His	Tyr	Leu	His	Gln	Leu	Asp	His	Gln	Glu	Ala	Ala	Ala		35	40	45	
Ala	Ala	Met	Val	Arg	Lys	Arg	Pro	Ala	Ser	Asp	Met	Asp	Leu	Pro	Pro		50	55	60	
Pro	Arg	Arg	His	Val	Thr	Gly	Asp	Leu	Ser	Asp	Val	Thr	Ala	Ala	Ala		65	70	75	80
Ala	Ala	Gly	Val	Gly	Gly	Ser	Gly	Ala	Pro	Ser	Ser	Ala	Ser	Ala	Gln		85	90	95	
Leu	Pro	Ala	Leu	Pro	Thr	Gln	Leu	His	Gln	Leu	Pro	Pro	Ala	Phe	Gln		100	105	110	
His	His	Ala	Pro	Glu	Val	Asp	Val	Pro	Ala	His	Pro	Ala	Pro	Ala	Ala		115	120	125	
His	Ala	Gln	Ala	Gly	Gly	Glu	Ala	Thr	Ala	Ser	Thr	Thr	Ala	Trp	Val		130	135	140	
Asp	Gly	Ile	Ile	Arg	Asp	Ile	Ile	Gly	Ser	Ser	Gly	Gly	Ala	Ala	Val		145	150	155	160
Ser	Ile	Thr	Gln	Leu	Ile	His	Asn	Val	Arg	Glu	Ile	Ile	His	Pro	Cys		165	170	175	
Asn	Pro	Gly	Leu	Ala	Ser	Leu	Leu	Glu	Leu	Arg	Leu	Arg	Ser	Leu	Leu		180	185	190	
Ala	Ala	Asp	Pro	Ala	Pro	Leu	Pro	Pro	Pro	Pro	Gln	Pro	Gln	Gln	His		195	200	205	
Ala	Leu	Leu	His	Gly	Ala	Pro	Ala	Ala	Ala	Pro	Ala	Gly	Leu	Thr	Leu		210	215	220	
Pro	Pro	Pro	Pro	Pro	Leu	Pro	Asp	Lys	Arg	Arg	His	Glu	His	Pro	Pro		225	230	235	240
Pro	Cys	Gln	Gln	Gln	Gln	Gln	Glu	Glu	Pro	His	Pro	Ala	Pro	Gln	Ser		245	250	255	
Pro	Lys	Ala	Pro	Thr	Ala	Glu	Glu	Thr	Ala	Ala	Ala	Ala	Ala	Ala	Ala		260	265	270	
Gln	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Lys	Glu	Arg	Lys	Glu	Glu	Gln	Arg		275	280	285	
Arg	Lys	Gln	Arg	Asp	Glu	Glu	Gly	Leu	His	Leu	Leu	Thr	Leu	Leu	Leu		290	295	300	

Gln Cys Ala Glu Ala Val Asn Ala Asp Asn Leu Asp Asp Ala His Gln
 305 310 315 320
 Thr Leu Leu Glu Ile Ala Glu Leu Ala Thr Pro Phe Gly Thr Ser Thr
 325 330 335
 Gln Arg Val Ala Ala Tyr Phe Ala Glu Ala Met Ser Ala Arg Leu Val
 340 345 350
 Ser Ser Cys Leu Gly Leu Tyr Ala Pro Leu Pro Pro Gly Ser Pro Ala
 355 360 365
 Ala Ala Arg Leu His Gly Arg Val Ala Ala Ala Phe Gln Val Phe Asn
 370 375 380
 Gly Ile Ser Pro Phe Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala
 385 390 395 400
 Ile Gln Glu Ala Phe Glu Arg Glu Glu Arg Val His Ile Ile Asp Leu
 405 410 415
 Asp Ile Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala
 420 425 430
 Ser Arg Pro Gly Gly Pro Pro Arg Val Arg Leu Thr Gly Leu Gly Ala
 435 440 445
 Ser Met Glu Ala Leu Glu Ala Thr Gly Lys Arg Leu Ser Asp Phe Ala
 450 455 460
 Asp Thr Leu Gly Leu Pro Phe Glu Phe Cys Ala Val Ala Glu Lys Ala
 465 470 475 480
 Gly Asn Val Asp Pro Glu Lys Leu Gly Val Thr Arg Arg Glu Ala Val
 485 490 495
 Ala Val His Trp Leu His His Ser Leu Tyr Asp Val Thr Gly Ser Asp
 500 505 510
 Ser Asn Thr Leu Trp Leu Ile Gln Arg Leu Ala Pro Lys Val Val Thr
 515 520 525
 Met Val Glu Gln Asp Leu Ser His Ser Gly Ser Phe Leu Ala Arg Phe
 530 535 540
 Val Glu Ala Ile His Tyr Tyr Ser Ala Leu Phe Asp Ser Leu Asp Ala
 545 550 555 560
 Ser Tyr Gly Glu Asp Ser Pro Glu Arg His Val Val Glu Gln Gln Leu
 565 570 575
 Leu Ser Arg Glu Ile Arg Asn Val Leu Ala Val Gly Gly Pro Ala Arg
 580 585 590
 Thr Gly Asp Val Lys Phe Gly Ser Trp Arg Glu Lys Leu Ala Gln Ser
 595 600 605
 Gly Phe Arg Ala Ala Ser Leu Ala Gly Ser Ala Ala Ala Gln Ala Ser

610	615	620
Leu Leu Leu Gly Met Phe Pro Ser Asp Gly Tyr Thr Leu Val Glu Glu		
625	630	635 640
Asn Gly Ala Leu Lys Leu Gly Trp Lys Asp Leu Cys Leu Leu Thr Ala		
	645	650 655
Ser Ala Trp Arg Pro Ile Gln Val Pro Pro Cys Arg		
	660	665

<210> 100
 <211> 653
 <212> PRT
 <213> Arabidopsis thaliana

<400> 100

Met Ala Glu Ser Gly Asp Phe Asn Gly Gly Gln Pro Pro Pro His Ser		
1	5	10 15
Pro Leu Arg Thr Thr Ser Ser Gly Ser Ser Ser Ser Asn Asn Arg Gly		
	20	25 30
Pro Pro Pro Pro Pro Pro Pro Pro Leu Val Met Val Arg Lys Arg Leu		
	35	40 45
Ala Ser Glu Met Ser Ser Asn Pro Asp Tyr Asn Asn Ser Ser Arg Pro		
	50	55 60
Pro Arg Arg Val Ser His Leu Leu Asp Ser Asn Tyr Asn Thr Val Thr		
65	70	75 80
Pro Gln Gln Pro Pro Ser Leu Thr Ala Ala Ala Thr Val Ser Ser Gln		
	85	90 95
Pro Asn Pro Pro Leu Ser Val Cys Gly Phe Ser Gly Leu Pro Val Phe		
	100	105 110
Pro Ser Asp Arg Gly Gly Arg Asn Val Met Met Ser Val Gln Pro Met		
	115	120 125
Asp Gln Asp Ser Ser Ser Ser Ser Ala Ser Pro Thr Val Trp Val Asp		
	130	135 140
Ala Ile Ile Arg Asp Leu Ile His Ser Ser Thr Ser Val Ser Ile Pro		
145	150	155 160
Gln Leu Ile Gln Asn Val Arg Asp Ile Ile Phe Pro Cys Asn Pro Asn		
	165	170 175
Leu Gly Ala Leu Leu Glu Tyr Arg Leu Arg Ser Leu Met Leu Leu Asp		
	180	185 190
Pro Ser Ser Ser Ser Asp Pro Ser Pro Gln Thr Phe Glu Pro Leu Tyr		
	195	200 205

Gln Ile Ser Asn Asn Pro Ser Pro Pro Gln Gln Gln Gln Gln His Gln
 210 215 220
 Gln Gln Gln Gln Gln His Lys Pro Pro Pro Pro Pro Ile Gln Gln Gln
 225 230 235 240
 Glu Arg Glu Asn Ser Ser Thr Asp Ala Pro Pro Gln Pro Glu Thr Val
 245 250 255
 Thr Ala Thr Val Pro Ala Val Gln Thr Asn Thr Ala Glu Ala Leu Arg
 260 265 270
 Glu Arg Lys Glu Glu Ile Lys Arg Gln Lys Gln Asp Glu Glu Gly Leu
 275 280 285
 His Leu Leu Thr Leu Leu Leu Gln Cys Ala Glu Ala Val Ser Ala Asp
 290 295 300
 Asn Leu Glu Glu Ala Asn Lys Leu Leu Leu Glu Ile Ser Gln Leu Ser
 305 310 315 320
 Thr Pro Tyr Gly Thr Ser Ala Gln Arg Val Ala Ala Tyr Phe Ser Glu
 325 330 335
 Ala Met Ser Ala Arg Leu Leu Asn Ser Cys Leu Gly Ile Tyr Ala Ala
 340 345 350
 Leu Pro Ser Arg Trp Met Pro Gln Thr His Ser Leu Lys Met Val Ser
 355 360 365
 Ala Phe Gln Val Phe Asn Gly Ile Ser Pro Leu Val Lys Phe Ser His
 370 375 380
 Phe Thr Ala Asn Gln Ala Ile Gln Glu Ala Phe Glu Lys Glu Asp Ser
 385 390 395 400
 Val His Ile Ile Asp Leu Asp Ile Met Gln Gly Leu Gln Trp Pro Gly
 405 410 415
 Leu Phe His Ile Leu Ala Ser Arg Pro Gly Gly Pro Pro His Val Arg
 420 425 430
 Leu Thr Gly Leu Gly Thr Ser Met Glu Ala Leu Gln Ala Thr Gly Lys
 435 440 445
 Arg Leu Ser Asp Phe Thr Asp Lys Leu Gly Leu Pro Phe Glu Phe Cys
 450 455 460
 Pro Leu Ala Glu Lys Val Gly Asn Leu Asp Thr Glu Arg Leu Asn Val
 465 470 475 480
 Arg Lys Arg Glu Ala Val Ala Val His Trp Leu Gln His Ser Leu Tyr
 485 490 495
 Asp Val Thr Gly Ser Asp Ala His Thr Leu Trp Leu Leu Gln Arg Leu
 500 505 510
 Ala Pro Lys Val Val Thr Val Val Glu Gln Asp Leu Ser His Ala Gly

515		520		525
Ser Phe Leu Gly Arg Phe Val Glu Ala Ile His Tyr Tyr Ser Ala Leu				
530		535		540
Phe Asp Ser Leu Gly Ala Ser Tyr Gly Glu Glu Ser Glu Glu Arg His				
545		550		555
Val Val Glu Gln Gln Leu Leu Ser Lys Glu Ile Arg Asn Val Leu Ala				
		565		570
Val Gly Gly Pro Ser Arg Ser Gly Glu Val Lys Phe Glu Ser Trp Arg				
		580		585
Glu Lys Met Gln Gln Cys Gly Phe Lys Gly Ile Ser Leu Ala Gly Asn				
		595		600
Ala Ala Thr Gln Ala Thr Leu Leu Leu Gly Met Phe Pro Ser Asp Gly				
		610		615
Tyr Thr Leu Val Asp Asp Asn Gly Thr Leu Lys Leu Gly Trp Lys Asp				
		625		630
Leu Ser Leu Leu Thr Ala Ser Ala Trp Thr Pro Arg Ser				
		645		650

<210> 101
 <211> 295
 <212> PRT
 <213> Zea mays

<400> 101

Gly Arg Val Ala Ala Ala Phe Gln Val Phe Asn Gly Ile Ser Pro Phe				
1		5		10
Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala Ile Gln Glu Ala Phe				
		20		25
Glu Arg Glu Glu Arg Val His Ile Ile Asp Leu Asp Ile Met Gln Gly				
		35		40
Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser Arg Pro Gly Gly				
		50		55
Pro Pro Arg Val Arg Leu Thr Gly Leu Gly Ala Ser Met Glu Ala Leu				
		65		70
Glu Ala Thr Gly Lys Arg Leu Ser Asp Phe Ala Asp Thr Leu Gly Leu				
		85		90
Pro Phe Glu Phe Cys Ala Val Ala Glu Lys Ala Gly Asn Val Asp Pro				
		100		105
Glu Lys Leu Gly Val Thr Arg Arg Glu Ala Val Ala Val His Trp Leu				
		115		120
				125

His His Ser Leu Tyr Asp Val Thr Gly Ser Asp Ser Asn Thr Leu Trp
 130 135 140
 Leu Ile Gln Arg Leu Ala Pro Lys Val Val Thr Met Val Glu Gln Asp
 145 150 155 160
 Leu Ser His Ser Gly Ser Phe Leu Ala Arg Phe Val Glu Ala Ile His
 165 170 175
 Tyr Tyr Ser Ala Leu Phe Asp Ser Leu Asp Ala Ser Tyr Gly Glu Asp
 180 185 190
 Ser Pro Glu Arg His Val Val Glu Gln Gln Leu Leu Ser Arg Glu Ile
 195 200 205
 Arg Asn Val Leu Ala Val Gly Gly Pro Ala Arg Thr Gly Asp Val Lys
 210 215 220
 Phe Gly Ser Trp Arg Glu Lys Leu Ala Gln Ser Gly Phe Arg Ala Ala
 225 230 235 240
 Ser Leu Ala Gly Ser Ala Ala Ala Gln Ala Ser Leu Leu Leu Gly Met
 245 250 255
 Phe Pro Ser Asp Gly Tyr Thr Leu Val Glu Glu Asn Gly Ala Leu Lys
 260 265 270
 Leu Gly Trp Lys Asp Leu Cys Leu Leu Thr Ala Ser Ala Trp Arg Pro
 275 280 285
 Ile Gln Val Pro Pro Cys Arg
 290 295

<210> 102
 <211> 308
 <212> PRT
 <213> Zea mays

<400> 102

Arg Arg Val Ala Val Ala Phe Gln Ala Tyr Asn Ala Leu Ser Pro Leu
 1 5 10 15
 Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala Ile Leu Gln Ala Leu
 20 25 30
 Asp Gly Glu Asp Cys Leu His Val Ile Asp Leu Asp Ile Met Gln Gly
 35 40 45
 Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser Arg Pro Arg Lys
 50 55 60
 Pro Arg Ser Leu Arg Ile Thr Gly Leu Gly Ala Ser Leu Asp Val Leu
 65 70 75 80
 Glu Ala Thr Gly Arg Arg Leu Ala Asp Phe Ala Ala Ser Leu Gly Leu
 85 90 95

Pro Phe Glu Phe Arg Pro Ile Glu Gly Lys Ile Gly His Val Ala Asp
 100 105 110
 Ala Ala Ala Leu Leu Gly Ser Arg Gln Arg Arg Arg Asp Asp Glu Ala
 115 120 125
 Thr Val Val His Trp Met His His Cys Leu Tyr Asp Val Thr Gly Ser
 130 135 140
 Asp Val Gly Thr Val Arg Leu Leu Arg Ser Leu Arg Pro Lys Leu Ile
 145 150 155 160
 Thr Ile Val Glu Gln Asp Leu Gly His Ser Gly Asp Phe Leu Gly Arg
 165 170 175
 Phe Val Glu Ala Leu His Tyr Tyr Ser Ala Leu Phe Asp Ala Leu Gly
 180 185 190
 Asp Gly Ala Gly Ala Ala Glu Glu Glu Ser Ala Glu Arg Tyr Ala Val
 195 200 205
 Glu Arg Gln Leu Leu Gly Ala Glu Ile Arg Asn Ile Val Ala Val Gly
 210 215 220
 Gly Pro Lys Arg Thr Gly Glu Val Arg Val Glu Arg Trp Ser His Glu
 225 230 235 240
 Leu Arg His Ala Gly Phe Arg Pro Val Ser Leu Ala Gly Ser Pro Ala
 245 250 255
 Ala Gln Ala Arg Leu Leu Leu Gly Met Tyr Pro Trp Lys Gly Tyr Thr
 260 265 270
 Leu Val Glu Glu Asp Ala Cys Leu Lys Leu Gly Trp Lys Asp Leu Ser
 275 280 285
 Leu Leu Thr Ala Ser Ala Trp Glu Pro Ala Asp Asp Ala Ala Ala Ser
 290 295 300
 Ala Pro Thr Gly
 305

<210> 103
 <211> 290
 <212> PRT
 <213> Arabidopsis thaliana
 <400> 103

Leu Lys Met Val Ser Ala Phe Gln Val Phe Asn Gly Ile Ser Pro Leu
 1 5 10 15
 Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala Ile Gln Glu Ala Phe
 20 25 30
 Glu Lys Glu Asp Ser Val His Ile Ile Asp Leu Asp Ile Met Gln Gly
 35 40 45

Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser Arg Pro Gly Gly
 50 55 60
 Pro Pro His Val Arg Leu Thr Gly Leu Gly Thr Ser Met Glu Ala Leu
 65 70 75 80
 Gln Ala Thr Gly Lys Arg Leu Ser Asp Phe Thr Asp Lys Leu Gly Leu
 85 90 95
 Pro Phe Glu Phe Cys Pro Leu Ala Glu Lys Val Gly Asn Leu Asp Thr
 100 105 110
 Glu Arg Leu Asn Val Arg Lys Arg Glu Ala Val Ala Val His Trp Leu
 115 120 125
 Gln His Ser Leu Tyr Asp Val Thr Gly Ser Asp Ala His Thr Leu Trp
 130 135 140
 Leu Leu Gln Arg Leu Ala Pro Lys Val Val Thr Val Val Glu Gln Asp
 145 150 155 160
 Leu Ser His Ala Gly Ser Phe Leu Gly Arg Phe Val Glu Ala Ile His
 165 170 175
 Tyr Tyr Ser Ala Leu Phe Asp Ser Leu Gly Ala Ser Tyr Gly Glu Glu
 180 185 190
 Ser Glu Glu Arg His Val Val Glu Gln Gln Leu Leu Ser Lys Glu Ile
 195 200 205
 Arg Asn Val Leu Ala Val Gly Gly Pro Ser Arg Ser Gly Glu Val Lys
 210 215 220
 Phe Glu Ser Trp Arg Glu Lys Met Gln Gln Cys Gly Phe Lys Gly Ile
 225 230 235 240
 Ser Leu Ala Gly Asn Ala Ala Thr Gln Ala Thr Leu Leu Leu Gly Met
 245 250 255
 Phe Pro Ser Asp Gly Tyr Thr Leu Val Asp Asp Asn Gly Thr Leu Lys
 260 265 270
 Leu Gly Trp Lys Asp Leu Ser Leu Leu Thr Ala Ser Ala Trp Thr Pro
 275 280 285
 Arg Ser
 290

<210> 104
 <211> 969
 <212> DNA
 <213> Zea mays

<400> 104

gcggccgcgc agagccgcgc cgtggcggtg gcgttccagg cgtacaacgc gctgtcgccg

60

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ctcgtcaagt tctcgactt cacggccaac caggccatcc tgcaggcgct cgacggcgag      120
gactgcctcc acgtgatcga cctggacatc atgcagggcc tgcagtggcc ggggctcttc      180
cacatcctcg cgtcccgcgc gcgcaagccg cggtcgctcc ggatcaccgg gctcggcgcg      240
tcgctcgacg tcctcgaggc cactggccgc cgcctcgccg acttcgcggc ctcgctcggc      300
ctcccgttcg agttccgccc catcgagggg aagatcgggc acgtcgccga cgccgcggcg      360
ctcctcgggt cgcgccagcg gcggcgggat gacgaggcca ccgtggtgca ctggatgcac      420
cactgcctct atgacgtgac ggggtcggac gtgggcacgg tgcggtgct cccgagcctg      480
cgcccgaagc tgatcaccat cgtggagcag gacctgggcc acagcggcga tttcctgggc      540
cggttcgtgg aggcgctgca ctactactcg gcgctgttcg acgcgctggg agacggcgcc      600
ggcgcgggcg aggaggagtc ggccgagcgg tacgcggttg agcgacagct cctgggcgcg      660
gagatacgca acatcgtggc cgtagggggg cccaagcgga caggggaggt gcgctggag      720
cgggtggagcc acgaactgcg gcacgccggg ttccggccag tgtccctggc cgggagccct      780
gccgcgcagg ccaggctgct cctcggcatg tatccgtgga aggggtacac gctggtggag      840
gaggacgcgt gccttaagct gggctggaag gacctctccc tgctcaccgc gtcggcgctg      900
gagccggcgg acgacgctgc cgcttctgcg cccaccggtt aacgagtacg agcggacgcg      960
tgggtcgac                                     969

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<210> 105
<211> 323
<212> PRT
<213> Zea mays

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<220>
<221> SITE
<222> 1...323
<223> Xaa=unknown amino acid

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<400> 105

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Ala Ala Ala Gln Ser Arg Arg Val Ala Val Ala Phe Gln Ala Tyr Asn
 1             5             10             15
Ala Leu Ser Pro Leu Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala
      20             25             30
Ile Leu Gln Ala Leu Asp Gly Glu Asp Cys Leu His Val Ile Asp Leu
      35             40             45
Asp Ile Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala
      50             55             60

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Ser Arg Pro Arg Lys Pro Arg Ser Leu Arg Ile Thr Gly Leu Gly Ala
 65 70 75 80
 Ser Leu Asp Val Leu Glu Ala Thr Gly Arg Arg Leu Ala Asp Phe Ala
 85 90 95
 Ala Ser Leu Gly Leu Pro Phe Glu Phe Arg Pro Ile Glu Gly Lys Ile
 100 105 110
 Gly His Val Ala Asp Ala Ala Ala Leu Leu Gly Ser Arg Gln Arg Arg
 115 120 125
 Arg Asp Asp Glu Ala Thr Val Val His Trp Met His His Cys Leu Tyr
 130 135 140
 Asp Val Thr Gly Ser Asp Val Gly Thr Val Arg Leu Leu Arg Ser Leu
 145 150 155 160
 Arg Pro Lys Leu Ile Thr Ile Val Glu Gln Asp Leu Gly His Ser Gly
 165 170 175
 Asp Phe Leu Gly Arg Phe Val Glu Ala Leu His Tyr Tyr Ser Ala Leu
 180 185 190
 Phe Asp Ala Leu Gly Asp Gly Ala Gly Ala Ala Glu Glu Glu Ser Ala
 195 200 205
 Glu Arg Tyr Ala Val Glu Arg Gln Leu Leu Gly Ala Glu Ile Arg Asn
 210 215 220
 Ile Val Ala Val Gly Gly Pro Lys Arg Thr Gly Glu Val Arg Val Glu
 225 230 235 240
 Arg Trp Ser His Glu Leu Arg His Ala Gly Phe Arg Pro Val Ser Leu
 245 250 255
 Ala Gly Ser Pro Ala Ala Gln Ala Arg Leu Leu Leu Gly Met Tyr Pro
 260 265 270
 Trp Lys Gly Tyr Thr Leu Val Glu Glu Asp Ala Cys Leu Lys Leu Gly
 275 280 285
 Trp Lys Asp Leu Ser Leu Leu Thr Ala Ser Ala Trp Glu Pro Ala Asp
 290 295 300
 Asp Ala Ala Ala Ser Ala Pro Thr Gly Xaa Arg Val Arg Ala Asp Ala
 305 310 315 320
 Trp Val Asp

<210> 106
 <211> 352
 <212> PRT
 <213> Zea mays

<400> 106

Leu Ser Met Val Asn Glu Leu Arg Gln Ile Val Ser Ile Gln Gly Asp
 1 5 10 15
 Pro Ser Gln Arg Ile Ala Ala Tyr Met Val Glu Gly Leu Ala Ala Arg
 20 25 30
 Met Ala Ala Ser Gly Lys Phe Ile Tyr Arg Ala Leu Lys Cys Lys Glu
 35 40 45
 Pro Pro Ser Asp Glu Arg Leu Ala Ala Met Gln Val Leu Phe Glu Val
 50 55 60
 Cys Pro Cys Phe Lys Phe Gly Phe Leu Ala Ala Asn Gly Ala Ile Leu
 65 70 75 80
 Glu Ala Ile Lys Gly Glu Glu Glu Val His Ile Ile Asp Phe Asp Ile
 85 90 95
 Asn Gln Gly Asn Gln Tyr Met Thr Leu Ile Arg Ser Ile Ala Glu Leu
 100 105 110
 Pro Gly Lys Arg Pro Arg Leu Arg Leu Thr Gly Ile Asp Asp Pro Glu
 115 120 125
 Ser Val Gln Arg Ser Ile Gly Gly Leu Arg Ile Ile Gly Leu Arg Leu
 130 135 140
 Glu Gln Leu Ala Glu Asp Asn Gly Val Ser Phe Lys Phe Lys Ala Met
 145 150 155 160
 Pro Ser Lys Thr Ser Ile Val Ser Pro Ser Thr Leu Gly Cys Lys Pro
 165 170 175
 Gly Glu Thr Leu Ile Val Asn Phe Ala Phe Gln Leu His His Met Pro
 180 185 190
 Asp Glu Ser Val Thr Thr Val Asn Gln Arg Asp Glu Leu Leu His Met
 195 200 205
 Val Lys Ser Leu Asn Pro Lys Leu Val Thr Val Val Glu Gln Asp Val
 210 215 220
 Asn Thr Asn Thr Ser Pro Phe Phe Pro Arg Phe Ile Glu Ala Tyr Glu
 225 230 235 240
 Tyr Tyr Ser Ala Val Phe Glu Ser Leu Asp Met Thr Leu Pro Arg Glu
 245 250 255
 Ser Gln Glu Arg Met Asn Val Glu Arg Gln Cys Leu Ala Arg Asp Ile
 260 265 270
 Val Asn Ile Val Ala Cys Glu Gly Glu Glu Arg Ile Glu Arg Tyr Glu
 275 280 285
 Ala Ala Gly Lys Trp Arg Ala Arg Met Met Met Ala Gly Phe Asn Pro
 290 295 300
 Lys Pro Met Ser Ala Lys Val Thr Asn Asn Ile Gln Asn Leu Ile Lys

305		310		315		320
Gln Gln Tyr Cys Asn Lys Tyr Lys Leu Lys Glu Glu Met Gly Glu Leu						
	325			330		335
His Phe Cys Trp Glu Glu Lys Ser Leu Ile Val Ala Ser Ala Trp Arg						
	340			345		350

<210> 107
 <211> 325
 <212> PRT
 <213> Zea mays

<400> 107

Ala Met Glu Gly Glu Lys Met Val His Val Ile Asp Leu Asp Ala Ser																
1				5					10						15	
Glu Pro Ala Gln Trp Leu Ala Leu Leu Gln Ala Phe Asn Ser Arg Pro																
			20					25						30		
Glu Gly Pro Pro His Leu Arg Ile Thr Gly Val His His Gln Lys Glu																
			35				40						45			
Val Leu Glu Gln Met Ala His Arg Leu Ile Glu Glu Ala Glu Lys Leu																
	50					55						60				
Asp Ile Pro Phe Gln Phe Asn Pro Val Val Ser Arg Leu Asp Cys Leu																
65					70				75							80
Asn Val Glu Gln Leu Arg Val Lys Thr Gly Glu Ala Leu Ala Val Ser																
				85					90						95	
Ser Val Leu Gln Leu His Thr Phe Leu Ala Ser Asp Asp Asp Leu Met																
			100					105							110	
Arg Lys Asn Cys Ala Leu Arg Phe His Asn Asn Pro Ser Gly Val Asp																
			115					120					125			
Leu Gln Arg Val Leu Met Met Ser His Gly Ser Ala Ala Glu Ala Arg																
	130					135						140				
Glu Asn Asp Met Ser Asn Asn Asn Gly Tyr Ser Pro Ser Gly Asp Ser																
145					150					155						160
Ala Ser Ser Leu Pro Leu Pro Ser Ser Gly Arg Thr Asp Ser Phe Leu																
				165					170							175
Asn Ala Ile Trp Gly Leu Ser Pro Lys Val Met Val Val Thr Glu Gln																
			180					185							190	
Asp Ser Asp His Asn Gly Ser Thr Leu Met Glu Arg Leu Leu Glu Ser																
	195						200						205			
Leu Tyr Thr Tyr Ala Ala Leu Phe Asp Cys Leu Glu Thr Lys Val Pro																
	210					215					220					

Arg Thr Ser Gln Asp Arg Ile Lys Val Glu Lys Met Leu Phe Gly Glu
 225 230 235 240
 Glu Ile Lys Asn Ile Ile Ser Cys Glu Gly Phe Glu Arg Arg Glu Arg
 245 250 255
 His Glu Lys Leu Glu Lys Trp Ser Gln Arg Ile Asp Leu Ala Gly Phe
 260 265 270
 Gly Asn Val Pro Leu Ser Tyr Tyr Ala Met Leu Gln Ala Arg Arg Leu
 275 280 285
 Leu Gln Gly Cys Gly Phe Asp Gly Tyr Arg Ile Lys Glu Glu Ser Gly
 290 295 300
 Cys Ala Val Ile Cys Trp Gln Asp Arg Pro Leu Tyr Ser Val Ser Ala
 305 310 315 320
 Trp Arg Cys Arg Lys
 325

<210> 108
 <211> 306
 <212> PRT
 <213> Arabidopsis thaliana

<400> 108

Gly Thr Ser Pro Thr Gly Pro Glu Leu Leu Thr Tyr Met His Ile Leu
 1 5 10 15
 Tyr Glu Ala Cys Pro Tyr Phe Lys Phe Gly Tyr Glu Ser Ala Asn Gly
 20 25 30
 Ala Ile Ala Glu Ala Val Lys Asn Glu Ser Phe Val His Ile Ile Asp
 35 40 45
 Phe Gln Ile Ser Gln Gly Gly Gln Trp Val Ser Leu Ile Arg Ala Leu
 50 55 60
 Gly Ala Arg Pro Gly Gly Pro Pro Asn Val Arg Ile Thr Gly Ile Asp
 65 70 75 80
 Asp Pro Arg Ser Ser Phe Ala Arg Gln Gly Gly Leu Glu Leu Val Gly
 85 90 95
 Gln Arg Leu Gly Lys Leu Ala Glu Met Cys Gly Val Pro Phe Glu Phe
 100 105 110
 His Gly Ala Ala Leu Phe Cys Thr Glu Val Glu Ile Glu Lys Leu Gly
 115 120 125
 Val Arg Asn Gly Glu Ala Leu Ala Val Asn Phe Pro Leu Val Leu His
 130 135 140
 His Met Pro Asp Glu Ser Val Thr Val Glu Asn His Arg Asp Arg Leu
 145 150 155 160

Leu Arg Leu Val Lys His Leu Ser Pro Asn Val Val Thr Leu Val Glu
 165 170 175
 Gln Glu Ala Asn Thr Asn Thr Ala Pro Phe Leu Pro Arg Phe Val Glu
 180 185 190
 Thr Met Asn His Tyr Leu Ala Val Phe Glu Ser Ile Asp Val Lys Leu
 195 200 205
 Ala Arg Asp His Lys Glu Arg Ile Asn Val Glu Gln His Cys Leu Ala
 210 215 220
 Arg Glu Val Glu Asn Leu Ile Ala Cys Glu Gly Val Glu Arg Glu Glu
 225 230 235 240
 Arg His Glu Pro Leu Gly Lys Trp Arg Ser Arg Phe His Met Ala Gly
 245 250 255
 Phe Lys Pro Tyr Pro Leu Ser Ser Tyr Val Asn Ala Thr Ile Lys Gly
 260 265 270
 Leu Leu Glu Ser Tyr Ser Glu Lys Tyr Thr Leu Glu Glu Arg Asp Gly
 275 280 285
 Ala Leu Tyr Leu Gly Trp Lys Asn Gln Pro Leu Ile Thr Ser Cys Ala
 290 295 300
 Trp Arg
 305

<210> 109
 <211> 378
 <212> PRT
 <213> Arabidopsis thaliana

<400> 109

Ala Ala Ile Phe Tyr Gly His His His His Thr Pro Pro Pro Ala Lys
 1 5 10 15
 Arg Leu Asn Pro Gly Pro Val Gly Ile Thr Glu Gln Leu Val Lys Ala
 20 25 30
 Ala Glu Val Ile Glu Ser Asp Thr Cys Leu Ala Gln Gly Ile Leu Ala
 35 40 45
 Arg Leu Asn Gln Gln Leu Ser Ser Pro Val Gly Lys Pro Leu Glu Arg
 50 55 60
 Ala Ala Phe Tyr Phe Lys Glu Ala Leu Asn Asn Leu Leu His Asn Val
 65 70 75 80
 Ser Gln Thr Leu Asn Pro Tyr Ser Leu Ile Phe Lys Ile Ala Ala Tyr
 85 90 95
 Lys Ser Phe Ser Glu Ile Ser Pro Val Leu Gln Phe Ala Asn Phe Thr
 100 105 110

Ser Asn Gln Ala Leu Leu Glu Ser Phe His Gly Phe His Arg Leu His
 115 120 125
 Ile Ile Asp Phe Asp Ile Gly Tyr Gly Gly Gln Trp Ala Ser Leu Met
 130 135 140
 Gln Glu Leu Val Leu Arg Asp Asn Ala Ala Pro Leu Ser Leu Lys Ile
 145 150 155 160
 Thr Val Phe Ala Ser Pro Ala Asn His Asp Gln Leu Glu Leu Gly Phe
 165 170 175
 Thr Gln Asp Asn Leu Lys His Phe Ala Ser Glu Ile Asn Ile Ser Leu
 180 185 190
 Asp Ile Gln Val Leu Ser Leu Asp Leu Leu Gly Ser Ile Ser Trp Pro
 195 200 205
 Asn Ser Ser Glu Lys Glu Ala Val Ala Val Asn Ile Ser Ala Ala Ser
 210 215 220
 Phe Ser His Leu Pro Leu Val Leu Arg Phe Val Lys His Leu Ser Pro
 225 230 235 240
 Thr Ile Ile Val Cys Ser Asp Arg Gly Cys Glu Arg Thr Asp Leu Pro
 245 250 255
 Phe Ser Gln Gln Leu Ala His Ser Leu His Ser His Thr Ala Leu Phe
 260 265 270
 Glu Ser Leu Asp Ala Val Asn Ala Asn Leu Asp Ala Met Gln Lys Ile
 275 280 285
 Glu Arg Phe Leu Ile Gln Pro Glu Ile Glu Lys Leu Val Leu Asp Arg
 290 295 300
 Ser Arg Pro Ile Glu Arg Pro Met Met Thr Trp Gln Ala Met Phe Leu
 305 310 315 320
 Gln Met Gly Phe Ser Pro Val Thr His Ser Asn Phe Thr Glu Ser Gln
 325 330 335
 Ala Glu Cys Leu Val Gln Arg Thr Pro Val Arg Gly Phe His Val Glu
 340 345 350
 Lys Lys His Asn Ser Leu Leu Leu Cys Trp Gln Arg Thr Glu Leu Val
 355 360 365
 Gly Val Ser Ala Trp Arg Cys Arg Ser Ser
 370 375

<210> 110
 <211> 189
 <212> PRT
 <213> Arabidopsis thaliana
 <400> 110

Lys Lys Trp Glu Thr Ile Thr Leu Asp Glu Leu Met Ile Asn Pro Gly
 1 5 10 15
 Glu Thr Thr Val Val Asn Cys Ile His Arg Leu Gln Tyr Thr Pro Asp
 20 25 30
 Glu Thr Val Ser Leu Asp Ser Pro Arg Asp Thr Val Leu Lys Leu Phe
 35 40 45
 Arg Asp Ile Asn Pro Asp Leu Phe Val Phe Ala Glu Ile Asn Gly Met
 50 55 60
 Tyr Asn Ser Pro Phe Phe Met Thr Arg Phe Arg Glu Ala Leu Phe His
 65 70 75 80
 Tyr Ser Ser Leu Phe Asp Met Phe Asp Thr Thr Ile His Cys Glu Arg
 85 90 95
 Arg Asp Glu Val Ile Ser Cys Glu Gly Ala Glu Arg Phe Ala Arg Pro
 100 105 110
 Glu Thr Tyr Lys Gln Trp Arg Val Arg Ile Leu Arg Ala Gly Phe Lys
 115 120 125
 Pro Ala Thr Ile Ser Lys Gln Ile Met Lys Glu Ala Lys Glu Ile Val
 130 135 140
 Arg Lys Arg Tyr His Arg Asp Phe Val Ile Asp Ser Asp Asn Asn Trp
 145 150 155 160
 Met Leu Gln Gly Trp Lys Gly Arg Val Ile Tyr Ala Phe Ser Cys Trp
 165 170 175
 Lys Pro Ala Glu Lys Phe Thr Asn Asn Asn Leu Asn Ile
 180 185

<210> 111
 <211> 284
 <212> PRT
 <213> Arabidopsis thaliana

<400> 111

Ala Asn Val Glu Ile Leu Glu Ala Ile Ala Gly Glu Thr Arg Val His
 1 5 10 15
 Ile Ile Asp Phe Gln Ile Ala Gln Gly Ser Gln Tyr Met Phe Leu Ile
 20 25 30
 Gln Glu Leu Ala Lys Arg Pro Gly Gly Pro Pro Leu Leu Arg Val Thr
 35 40 45
 Gly Val Asp Asp Ser Gln Ser Thr Tyr Ala Arg Gly Gly Gly Leu Ser
 50 55 60
 Leu Val Gly Glu Arg Leu Ala Thr Leu Ala Gln Ser Cys Gly Val Pro
 65 70 75 80

Gly Phe Trp Ser Trp Ile His Met Gly Ser Tyr Pro Asp Gly Phe Pro
 35 40 45
 Gly Ser Met Asp Glu Leu Asp Phe Asn Lys Asp Phe Asp Leu Pro Pro
 50 55 60
 Ser Ser Asn Gln Thr Leu Gly Leu Ala Asn Gly Phe Tyr Leu Asp Asp
 65 70 75 80
 Leu Asp Phe Ser Ser Leu Asp Pro Pro Glu Ala Tyr Pro Ser Gln Asn
 85 90 95
 Asn Asn Asn Asn Asn Ile Asn Asn Lys Ala Val Ala Gly Asp Leu Leu
 100 105 110
 Ser Ser Ser Ser Asp Asp Ala Asp Phe Ser Asp Ser Val Leu Lys Tyr
 115 120 125
 Ile Ser Gln Val Leu Met Glu Glu Asp Met Glu Glu Lys Pro Cys Met
 130 135 140
 Phe His Asp Ala Leu Ala Leu Gln Ala Ala Glu Lys Ser Leu Tyr Glu
 145 150 155 160
 Ala Leu Gly Glu Lys Asp Pro Ser Ser Ser Ser Ala Ser Ser Val Asp
 165 170 175
 His Pro Glu Arg Leu Ala Ser His Ser Pro Asp Gly Ser Cys Ser Gly
 180 185 190
 Gly Ala Phe Ser Asp Tyr Ala Ser Thr Thr Thr Thr Thr Ser Ser Asp
 195 200 205
 Ser His Trp Ser Val Asp Gly Leu Glu Asn Arg Pro Ser Trp Leu His
 210 215 220
 Thr Pro Met Pro Ser Asn Phe Val Phe Gln Ser Thr Ser Arg Ser Asn
 225 230 235 240
 Ser Val Thr Gly Gly Gly Gly Gly Gly Asn Ser Ala Val Tyr Gly Ser
 245 250 255
 Gly Phe Gly Asp Asp Leu Val Ser Asn Met Phe Lys Asp Asp Glu Leu
 260 265 270
 Ala Met Gln Phe Lys Lys Gly Val Glu Glu Ala Ser Lys Phe Leu Pro
 275 280 285
 Lys Ser Ser Gln Leu Phe Ile Asp Val Asp Ser Tyr Ile Pro Met Asn
 290 295 300
 Ser Gly Ser Lys Glu Asn Gly Ser Glu Val Phe Val Lys Thr Glu Lys
 305 310 315 320
 Lys Asp Glu Thr Glu His His His His His Ser Tyr Ala Pro Pro Pro
 325 330 335
 Asn Arg Leu Thr Gly Lys Lys Ser His Trp Arg Asp Glu Asp Glu Asp

340																345																350															
Phe	Val	Glu	Glu	Arg	Ser	Asn	Lys	Gln	Ser	Ala	Val	Tyr	Val	Glu	Glu																																
		355				360						365																																			
Ser	Glu	Leu	Ser	Glu	Met	Phe	Asp	Asn	Met	Phe	Leu	Cys	Gly	Pro	Gly																																
		370				375						380																																			
Lys	Pro	Val	Cys	Ile	Leu	Asn	Gln	Asn	Phe	Pro	Thr	Glu	Ser	Ala	Lys																																
385				390						395																																					
Val	Val	Thr	Ala	Gln	Ser	Asn	Gly	Ala	Lys	Ile	Arg	Gly	Lys	Lys	Ser																																
				405				410						415																																	
Thr	Ser	Thr	Ser	His	Ser	Asn	Asp	Ser	Lys	Lys	Glu	Thr	Ala	Asp	Leu																																
		420						425						430																																	
Arg	Thr	Leu	Leu	Val	Leu	Cys	Ala	Gln	Ala	Val	Ser	Val	Asp	Asp	Arg																																
		435				440						445																																			
Arg	Thr	Ala	Asn	Val	Xaa	Leu	Arg	Gln	Ile	Arg	Glu	His	Ser	Ser	Pro																																
450						455						460																																			
Leu	Gly	Asn	Gly	Ser	Glu	Arg	Leu	Ala	His	Tyr	Phe	Ala	Asn	Ser	Leu																																
465				470						475																																					
Glu	Ala	Arg	Leu	Ala	Gly	Thr	Gly	Thr	Gln	Ile	Tyr	Thr	Ala	Leu	Ser																																
				485				490						495																																	
Ser	Lys	Lys	Thr	Ser	Ala	Ala	Asp	Met	Leu	Lys	Ala	Tyr	Gln	Thr	Tyr																																
		500						505						510																																	
Met	Ser	Val	Cys	Pro	Phe	Lys	Lys	Ala	Ala	Ile	Ile	Phe	Ala	Asn	His																																
		515				520						525																																			
Ser	Met	Met	Arg	Phe	Thr	Ala	Asn	Ala	Asn	Thr	Ile	His	Ile	Ile	Asp																																
530						535						540																																			
Phe	Gly	Ile	Ser	Tyr	Gly	Phe	Gln	Trp	Pro	Ala	Leu	Ile	His	Arg	Leu																																
545				550						555																																					
Ser	Leu	Ser	Arg	Pro	Gly	Gly	Ser	Pro	Lys	Leu	Arg	Ile	Thr	Gly	Ile																																
				565				570						575																																	
Glu	Leu	Pro	Gln	Arg	Gly	Phe	Arg	Pro	Ala	Glu	Glu	Phe	Arg	Arg	Gln																																
		580						585						590																																	
Val	Ile	Ala	Trp	Leu	Asp	Thr	Val	Ser	Asp	Thr	Met	Phe	Arg	Leu	Ser																																
		595				600						605																																			
Thr	Thr	Gln	Leu	Leu	Arg	Asn	Gly	Glu	Thr	Ile	Gln	Val	Glu	Asp	Leu																																
610						615						620																																			
Lys	Leu	Arg	Gln	Gly	Glu	Tyr	Val	Val	Val	Asn	Ser	Leu	Phe	Arg	Phe																																
625				630						635																																					
Arg	Asn	Leu	Leu	Asp	Glu	Thr	Val	Leu	Val	Asn	Ser	Pro	Arg	Asp	Ala																																
				645				650						655																																	

Val Leu Lys Leu Ile Arg Lys Ile Asn Pro Asn Val Phe Ile Pro Ala
 660 665 670
 Ile Leu Ser Gly Asn Tyr Asn Ala Pro Phe Phe Val Thr Arg Phe Arg
 675 680 685
 Glu Ala Leu Phe His Tyr Ser Ala Val Phe Asp Met Cys Asp Ser Lys
 690 695 700
 Leu Ala Arg Glu Asp Glu Met Arg Leu Met Tyr Val Phe Glu Phe Tyr
 705 710 715 720
 Gly Arg Glu Ile Val Asn Val Val Ala Ser Glu Gly Thr Glu Arg Val
 725 730 735
 Glu Ser Arg Glu Thr Tyr Lys Gln Trp Gln Ala Arg Leu Ile Arg Ala
 740 745 750
 Gly Phe Arg Gln Leu Pro Leu Glu Lys Glu Leu Met Gln Asn Leu Lys
 755 760 765
 Leu Lys Ile Glu Asn Gly Tyr Asp Lys Asn Phe Asp Val Asp Gln Asn
 770 775 780
 Gly Asn Trp Leu Leu Gln Gly Trp Lys Gly Arg Ile Val Tyr Ala Ser
 785 790 795 800
 Ser Leu Trp Val Pro Ser Ser Ser
 805

<210> 113
 <211> 377
 <212> PRT
 <213> Arabidopsis thaliana

<400> 113

Glu Val Val Asp Leu Arg Ser Leu Leu Ile His Cys Ala Gln Ala Val
 1 5 10 15
 Ala Ala Asp Asp Arg Arg Cys Ala Gly Gln Leu Leu Lys Gln Ile Arg
 20 25 30
 Leu His Ser Thr Pro Phe Gly Asp Gly Asn Gln Arg Leu Ala His Cys
 35 40 45
 Phe Ala Asn Gly Leu Glu Ala Arg Leu Ala Gly Thr Gly Ser Gln Ile
 50 55 60
 Tyr Lys Gly Ile Val Ser Lys Pro Arg Ser Ala Ala Ala Val Leu Lys
 65 70 75 80
 Ala His Gln Leu Phe Leu Ala Cys Cys Pro Phe Arg Lys Leu Ser Tyr
 85 90 95
 Phe Ile Thr Asn Lys Thr Ile Arg Asp Leu Val Gly Asn Ser Gln Arg
 100 105 110

Val His Val Ile Asp Phe Gly Ile Leu Tyr Gly Phe Gln Trp Pro Thr
 115 120 125
 Leu Ile His Arg Phe Ser Met Tyr Gly Ser Pro Lys Val Arg Ile Thr
 130 135 140
 Gly Ile Glu Phe Pro Gln Pro Gly Phe Arg Pro Ala Gln Arg Val Glu
 145 150 155 160
 Glu Thr Gly Gln Arg Leu Ala Ala Tyr Ala Lys Leu Phe Gly Val Pro
 165 170 175
 Phe Glu Tyr Lys Ala Ile Ala Lys Lys Trp Asp Ala Ile Gln Leu Glu
 180 185 190
 Asp Leu Asp Ile Asp Arg Asp Glu Ile Thr Val Val Asn Cys Leu Tyr
 195 200 205
 Arg Ala Glu Asn Leu His Asp Glu Ser Val Lys Val Glu Ser Cys Arg
 210 215 220
 Asp Thr Val Leu Asn Leu Ile Gly Lys Ile Asn Pro Asp Leu Phe Val
 225 230 235 240
 Phe Gly Ile Val Asn Gly Ala Tyr Asn Ala Pro Phe Phe Val Thr Arg
 245 250 255
 Phe Arg Glu Ala Leu Phe His Phe Ser Ser Ile Phe Asp Met Leu Glu
 260 265 270
 Thr Ile Val Pro Arg Glu Asp Glu Glu Arg Met Phe Leu Glu Met Glu
 275 280 285
 Val Phe Gly Arg Glu Ala Leu Asn Val Ile Ala Cys Glu Gly Trp Glu
 290 295 300
 Arg Val Glu Arg Pro Glu Thr Tyr Lys Gln Trp His Val Arg Ala Met
 305 310 315 320
 Arg Ser Gly Leu Val Gln Val Pro Phe Asp Pro Ser Ile Met Lys Thr
 325 330 335
 Ser Leu His Lys Val His Thr Phe Tyr His Lys Asp Phe Val Ile Asp
 340 345 350
 Gln Asp Asn Arg Trp Leu Leu Gln Gly Trp Lys Gly Arg Thr Val Met
 355 360 365
 Ala Leu Ser Val Trp Lys Pro Glu Ser
 370 375

<210> 114

<211> 381

<212> PRT

<213> Arabidopsis thaliana

<400> 114

Glu Thr Ala Asp Leu Arg Thr Leu Leu Val Leu Cys Ala Gln Ala Val
1 5 10 15
Ser Val Asp Asp Arg Arg Thr Ala Asn Glu Met Leu Arg Gln Ile Arg
20 25 30
Glu His Ser Ser Pro Leu Gly Asn Gly Ser Glu Arg Leu Ala His Tyr
35 40 45
Phe Ala Asn Ser Leu Glu Ala Arg Leu Ala Gly Thr Gly Thr Gln Ile
50 55 60
Tyr Thr Ala Leu Ser Ser Lys Lys Thr Ser Ala Ala Asp Met Leu Lys
65 70 75 80
Ala Tyr Gln Thr Tyr Met Ser Val Cys Pro Phe Lys Lys Ala Ala Ile
85 90 95
Ile Phe Ala Asn His Ser Met Met Arg Phe Thr Ala Asn Ala Asn Thr
100 105 110
Ile His Ile Ile Asp Phe Gly Ile Ser Tyr Gly Phe Gln Trp Pro Ala
115 120 125
Leu Ile His Arg Leu Ser Leu Ser Arg Pro Gly Gly Ser Pro Lys Leu
130 135 140
Arg Ile Thr Gly Ile Glu Leu Pro Gln Arg Gly Phe Arg Pro Ala Glu
145 150 155 160
Glu Phe Arg Arg Gln Val Ile Ala Trp Leu Asp Thr Val Ser Asp Thr
165 170 175
Met Phe Arg Leu Ser Thr Thr Gln Leu Leu Arg Asn Gly Glu Thr Ile
180 185 190
Gln Val Glu Asp Leu Lys Leu Arg Gln Gly Glu Tyr Val Val Val Asn
195 200 205
Ser Leu Phe Arg Phe Arg Asn Leu Leu Asp Glu Thr Val Leu Val Asn
210 215 220
Ser Pro Arg Asp Ala Val Leu Lys Leu Ile Arg Lys Ile Asn Pro Asn
225 230 235 240
Val Phe Ile Pro Ala Ile Leu Ser Gly Asn Tyr Asn Ala Pro Phe Phe
245 250 255
Val Thr Arg Phe Arg Glu Ala Leu Phe His Tyr Ser Ala Val Phe Asp
260 265 270
Met Cys Asp Ser Lys Leu Ala Arg Glu Asp Glu Met Arg Leu Met Tyr
275 280 285
Val Phe Glu Phe Tyr Gly Arg Glu Ile Val Asn Val Val Ala Ser Glu
290 295 300

Gly Thr Glu Arg Val Glu Ser Arg Glu Thr Tyr Lys Gln Trp Gln Ala
 305 310 315 320
 Arg Leu Ile Arg Ala Gly Phe Arg Gln Leu Pro Leu Glu Lys Glu Leu
 325 330 335
 Met Gln Asn Leu Lys Leu Lys Ile Glu Asn Gly Tyr Asp Lys Asn Phe
 340 345 350
 Asp Val Asp Gln Asn Gly Asn Trp Leu Leu Gln Gly Trp Lys Gly Arg
 355 360 365
 Ile Val Tyr Ala Ser Ser Leu Trp Val Pro Ser Ser Ser
 370 375 380

<210> 115
 <211> 352
 <212> PRT
 <213> Arabidopsis thaliana

<400> 115

Leu Ser Met Val Asn Glu Leu Arg Gln Ile Val Ser Ile Gln Gly Asp
 1 5 10 15
 Pro Ser Gln Arg Ile Ala Ala Tyr Met Val Glu Gly Leu Ala Ala Arg
 20 25 30
 Met Ala Ala Ser Gly Lys Phe Ile Tyr Arg Ala Leu Lys Cys Lys Glu
 35 40 45
 Pro Pro Ser Asp Glu Arg Leu Ala Ala Met Gln Val Leu Phe Glu Val
 50 55 60
 Cys Pro Cys Phe Lys Phe Gly Phe Leu Ala Ala Asn Gly Ala Ile Leu
 65 70 75 80
 Glu Ala Ile Lys Gly Glu Glu Glu Val His Ile Ile Asp Phe Asp Ile
 85 90 95
 Asn Gln Gly Asn Gln Tyr Met Thr Leu Ile Arg Ser Ile Ala Glu Leu
 100 105 110
 Pro Gly Lys Arg Pro Arg Leu Arg Leu Thr Gly Ile Asp Asp Pro Glu
 115 120 125
 Ser Val Gln Arg Ser Ile Gly Gly Leu Arg Ile Ile Gly Leu Arg Leu
 130 135 140
 Glu Gln Leu Ala Glu Asp Asn Gly Val Ser Phe Lys Phe Lys Ala Met
 145 150 155 160
 Pro Ser Lys Thr Ser Ile Val Ser Pro Ser Thr Leu Gly Cys Lys Pro
 165 170 175
 Gly Glu Thr Leu Ile Val Asn Phe Ala Phe Gln Leu His His Met Pro
 180 185 190

Asp Glu Ser Val Thr Thr Val Asn Gln Arg Asp Glu Leu Leu His Met
 195 200 205
 Val Lys Ser Leu Asn Pro Lys Leu Val Thr Val Val Glu Gln Asp Val
 210 215 220
 Asn Thr Asn Thr Ser Pro Phe Phe Pro Arg Phe Ile Glu Ala Tyr Glu
 225 230 235 240
 Tyr Tyr Ser Ala Val Phe Glu Ser Leu Asp Met Thr Leu Pro Arg Glu
 245 250 255
 Ser Gln Glu Arg Met Asn Val Glu Arg Gln Cys Leu Ala Arg Asp Ile
 260 265 270
 Val Asn Ile Val Ala Cys Glu Gly Glu Glu Arg Ile Glu Arg Tyr Glu
 275 280 285
 Ala Ala Gly Lys Trp Arg Ala Arg Met Met Met Ala Gly Phe Asn Pro
 290 295 300
 Lys Pro Met Ser Ala Lys Val Thr Asn Asn Ile Gln Asn Leu Ile Lys
 305 310 315 320
 Gln Gln Tyr Cys Asn Lys Tyr Lys Leu Lys Glu Glu Met Gly Glu Leu
 325 330 335
 His Phe Cys Trp Glu Glu Lys Ser Leu Ile Val Ala Ser Ala Trp Arg
 340 345 350

<210> 116
 <211> 380
 <212> PRT
 <213> Arabidopsis thaliana

<400> 116

Thr Ser Val Cys Ser Arg Gln Thr Val Met Glu Ile Ala Thr Ala Ile
 1 5 10 15
 Ala Glu Gly Lys Thr Glu Ile Ala Thr Glu Ile Leu Ala Arg Val Ser
 20 25 30
 Gln Thr Pro Asn Leu Glu Arg Asn Ser Glu Glu Lys Leu Val Asp Phe
 35 40 45
 Met Val Ala Ala Leu Arg Ser Arg Ile Ala Ser Pro Val Thr Glu Leu
 50 55 60
 Tyr Gly Lys Glu His Leu Ile Ser Thr Gln Leu Leu Tyr Glu Leu Ser
 65 70 75 80
 Pro Cys Phe Lys Leu Gly Phe Glu Ala Ala Asn Leu Ala Ile Leu Asp
 85 90 95
 Ala Ala Asp Asn Asn Asp Gly Gly Met Met Ile Pro His Val Ile Asp

100	105	110
Phe Asp Ile Gly Glu Gly Gly Gln Tyr Val Asn Leu Leu Arg Thr Leu 115 120 125		
Ser Thr Arg Arg Asn Gly Lys Ser Gln Ser Gln Asn Ser Pro Val Val 130 135 140		
Lys Ile Thr Ala Val Ala Asn Asn Val Tyr Gly Cys Leu Val Asp Asp 145 150 155 160		
Gly Gly Glu Glu Arg Leu Lys Ala Val Gly Asp Leu Leu Ser Gln Leu 165 170 175		
Gly Asp Arg Leu Gly Ile Ser Val Ser Phe Asn Val Val Thr Ser Leu 180 185 190		
Arg Leu Gly Asp Leu Asn Arg Glu Ser Leu Gly Cys Asp Pro Asp Glu 195 200 205		
Thr Leu Ala Val Asn Leu Ala Phe Lys Leu Tyr Arg Val Pro Asp Glu 210 215 220		
Ser Val Cys Thr Glu Asn Pro Arg Asp Glu Leu Leu Arg Arg Val Lys 225 230 235 240		
Gly Leu Lys Pro Arg Val Val Thr Leu Val Glu Gln Glu Met Asn Ser 245 250 255		
Asn Thr Ala Pro Phe Leu Gly Arg Val Ser Glu Ser Cys Ala Cys Tyr 260 265 270		
Gly Ala Leu Leu Glu Ser Val Glu Ser Thr Val Pro Ser Thr Asn Ser 275 280 285		
Asp Arg Ala Lys Val Glu Glu Gly Ile Gly Arg Lys Leu Val Asn Ala 290 295 300		
Val Ala Cys Glu Gly Ile Asp Arg Ile Glu Arg Cys Glu Val Phe Gly 305 310 315 320		
Lys Trp Arg Met Arg Met Ser Met Ala Gly Phe Glu Leu Met Pro Leu 325 330 335		
Ser Glu Lys Ile Ala Glu Ser Met Lys Ser Arg Gly Asn Arg Val His 340 345 350		
Pro Gly Phe Thr Val Lys Glu Asp Asn Gly Gly Val Cys Phe Gly Trp 355 360 365		
Met Gly Arg Ala Leu Thr Val Ala Ser Ala Trp Arg 370 375 380		

<210> 117
 <211> 374
 <212> PRT

<213> Arabidopsis thaliana

<400> 117

Phe	Asp	Leu	Glu	Pro	Pro	Leu	Leu	Lys	Ala	Ile	Tyr	Asp	Cys	Ala	Arg
1				5					10					15	
Ile	Ser	Asp	Ser	Asp	Pro	Asn	Glu	Ala	Ser	Lys	Thr	Leu	Leu	Gln	Ile
			20					25					30		
Arg	Glu	Ser	Val	Ser	Glu	Leu	Gly	Asp	Pro	Thr	Glu	Arg	Val	Ala	Phe
		35					40					45			
Tyr	Phe	Thr	Glu	Ala	Leu	Ser	Asn	Arg	Leu	Ser	Pro	Asn	Ser	Pro	Ala
	50					55					60				
Thr	Ser	Ser	Ser	Ser	Ser	Ser	Thr	Glu	Asp	Leu	Ile	Leu	Ser	Tyr	Lys
65					70					75					80
Thr	Leu	Asn	Asp	Ala	Cys	Pro	Tyr	Ser	Lys	Phe	Ala	His	Leu	Thr	Ala
				85					90					95	
Asn	Gln	Ala	Ile	Leu	Glu	Ala	Thr	Glu	Lys	Ser	Asn	Lys	Ile	His	Ile
		100						105					110		
Val	Asp	Phe	Gly	Ile	Val	Gln	Gly	Ile	Gln	Trp	Pro	Ala	Leu	Leu	Gln
		115					120						125		
Ala	Leu	Ala	Thr	Arg	Thr	Ser	Gly	Lys	Pro	Thr	Gln	Ile	Arg	Val	Ser
	130					135					140				
Gly	Ile	Pro	Ala	Pro	Ser	Leu	Gly	Glu	Ser	Pro	Glu	Pro	Ser	Leu	Ile
145					150					155					160
Ala	Thr	Gly	Asn	Arg	Leu	Arg	Asp	Phe	Ala	Lys	Val	Leu	Asp	Leu	Asn
			165						170					175	
Phe	Asp	Phe	Ile	Pro	Ile	Leu	Thr	Pro	Ile	His	Leu	Leu	Asn	Gly	Ser
		180						185					190		
Ser	Phe	Arg	Val	Asp	Pro	Asp	Glu	Val	Leu	Ala	Val	Asn	Phe	Met	Leu
	195					200						205			
Gln	Leu	Tyr	Lys	Leu	Leu	Asp	Glu	Thr	Pro	Thr	Ile	Val	Asp	Thr	Ala
	210					215					220				
Leu	Arg	Leu	Ala	Lys	Ser	Leu	Asn	Pro	Arg	Val	Val	Thr	Leu	Gly	Glu
225					230					235					240
Tyr	Glu	Val	Ser	Leu	Asn	Arg	Val	Gly	Phe	Ala	Asn	Arg	Val	Lys	Asn
			245						250					255	
Ala	Leu	Gln	Phe	Tyr	Ser	Ala	Val	Phe	Glu	Ser	Leu	Glu	Pro	Asn	Leu
		260						265					270		
Gly	Arg	Asp	Ser	Glu	Glu	Arg	Val	Arg	Val	Glu	Arg	Glu	Leu	Phe	Gly
	275					280						285			

Arg Arg Ile Ser Gly Leu Ile Gly Pro Glu Lys Thr Gly Ile His Arg
 290 295 300

Glu Arg Met Glu Glu Lys Glu Gln Trp Arg Val Leu Met Glu Asn Ala
 305 310 315 320

Gly Phe Glu Ser Val Lys Leu Ser Asn Tyr Ala Val Ser Gln Ala Lys
 325 330 335

Ile Leu Leu Trp Asn Tyr Asn Tyr Ser Asn Leu Tyr Ser Ile Val Glu
 340 345 350

Ser Lys Pro Gly Phe Ile Ser Leu Ala Trp Asn Asp Leu Pro Leu Leu
 355 360 365

Thr Leu Ser Ser Trp Arg
 370

<210> 118

<211> 358

<212> PRT

<213> Arabidopsis thaliana

<400> 118

Gly Pro Val Gly Ile Thr Glu Gln Leu Val Lys Ala Ala Glu Val Ile
 1 5 10 15

Glu Ser Asp Thr Cys Leu Ala Gln Gly Ile Leu Ala Arg Leu Asn Gln
 20 25 30

Gln Leu Ser Ser Pro Val Gly Lys Pro Leu Glu Arg Ala Ala Phe Tyr
 35 40 45

Phe Lys Glu Ala Leu Asn Asn Leu Leu His Asn Val Ser Gln Thr Leu
 50 55 60

Asn Pro Tyr Ser Leu Ile Phe Lys Ile Ala Ala Tyr Lys Ser Phe Ser
 65 70 75 80

Glu Ile Ser Pro Val Leu Gln Phe Ala Asn Phe Thr Ser Asn Gln Ala
 85 90 95

Leu Leu Glu Ser Phe His Gly Phe His Arg Leu His Ile Ile Asp Phe
 100 105 110

Asp Ile Gly Tyr Gly Gly Gln Trp Ala Ser Leu Met Gln Glu Leu Val
 115 120 125

Leu Arg Asp Asn Ala Ala Pro Leu Ser Leu Lys Ile Thr Val Phe Ala
 130 135 140

Ser Pro Ala Asn His Asp Gln Leu Glu Leu Gly Phe Thr Gln Asp Asn
 145 150 155 160

Leu Lys His Phe Ala Ser Glu Ile Asn Ile Ser Leu Asp Ile Gln Val
 165 170 175

Leu Ser Leu Asp Leu Leu Gly Ser Ile Ser Trp Pro Asn Ser Ser Glu
 180 185 190
 Lys Glu Ala Val Ala Val Asn Ile Ser Ala Ala Ser Phe Ser His Leu
 195 200 205
 Pro Leu Val Leu Arg Phe Val Lys His Leu Ser Pro Thr Ile Ile Val
 210 215 220
 Cys Ser Asp Arg Gly Cys Glu Arg Thr Asp Leu Pro Phe Ser Gln Gln
 225 230 235 240
 Leu Ala His Ser Leu His Ser His Thr Ala Leu Phe Glu Ser Leu Asp
 245 250 255
 Ala Val Asn Ala Asn Leu Asp Ala Met Gln Lys Ile Glu Arg Phe Leu
 260 265 270
 Ile Gln Pro Glu Ile Glu Lys Leu Val Leu Asp Arg Ser Arg Pro Ile
 275 280 285
 Glu Arg Pro Met Met Thr Trp Gln Ala Met Phe Leu Gln Met Gly Phe
 290 295 300
 Ser Pro Val Thr His Ser Asn Phe Thr Glu Ser Gln Ala Glu Cys Leu
 305 310 315 320
 Val Gln Arg Thr Pro Val Arg Gly Phe His Val Glu Lys Lys His Asn
 325 330 335
 Ser Leu Leu Leu Cys Trp Gln Arg Thr Glu Leu Val Gly Val Ser Ala
 340 345 350
 Trp Arg Cys Arg Ser Ser
 355

<210> 119
 <211> 369
 <212> PRT
 <213> Arabidopsis thaliana

<400> 119

Gly Gly Phe Gly Phe Ile Glu Asp Leu Ile Arg Val Val Asp Cys Val
 1 5 10 15
 Glu Ser Asp Glu Leu Gln Leu Ala Gln Val Val Leu Ser Arg Leu Asn
 20 25 30
 Gln Arg Leu Arg Ser Pro Ala Gly Arg Pro Leu Gln Arg Ala Ala Phe
 35 40 45
 Tyr Phe Lys Glu Ala Leu Gly Ser Phe Leu Thr Gly Ser Asn Arg Asn
 50 55 60
 Pro Ile Arg Leu Ser Ser Trp Ser Glu Ile Val Gln Arg Ile Arg Ala
 65 70 75 80

Ile Lys Glu Tyr Ser Gly Ile Ser Pro Ile Pro Leu Phe Ser His Phe
 85 90 95
 Thr Ala Asn Gln Ala Ile Leu Asp Ser Leu Ser Ser Gln Ser Ser Ser
 100 105 110
 Pro Phe Val His Val Val Asp Phe Glu Ile Gly Phe Gly Gly Gln Tyr
 115 120 125
 Ala Ser Leu Met Arg Glu Ile Thr Glu Lys Ser Val Ser Gly Gly Phe
 130 135 140
 Leu Arg Val Thr Ala Val Val Ala Glu Glu Cys Ala Val Glu Thr Arg
 145 150 155 160
 Leu Val Lys Glu Asn Leu Thr Gln Phe Ala Ala Glu Met Lys Ile Arg
 165 170 175
 Phe Gln Ile Glu Phe Val Leu Met Lys Thr Phe Glu Met Leu Ser Phe
 180 185 190
 Lys Ala Ile Arg Phe Val Glu Gly Glu Arg Thr Val Val Leu Ile Ser
 195 200 205
 Pro Ala Ile Phe Arg Arg Leu Ser Gly Ile Thr Asp Phe Val Asn Asn
 210 215 220
 Leu Arg Arg Val Ser Pro Lys Val Val Val Phe Val Asp Ser Glu Gly
 225 230 235 240
 Trp Thr Glu Ile Ala Gly Ser Gly Ser Phe Arg Arg Glu Phe Val Ser
 245 250 255
 Ala Leu Glu Phe Tyr Thr Met Val Leu Glu Ser Leu Asp Ala Ala Ala
 260 265 270
 Pro Pro Gly Asp Leu Val Lys Lys Ile Val Glu Ala Phe Val Leu Arg
 275 280 285
 Pro Lys Ile Ser Ala Ala Val Glu Thr Ala Ala Asp Arg Arg His Thr
 290 295 300
 Gly Glu Met Thr Trp Arg Glu Ala Phe Cys Ala Ala Gly Met Arg Pro
 305 310 315 320
 Ile Gln Gln Ser Gln Phe Ala Asp Phe Gln Ala Glu Cys Leu Leu Glu
 325 330 335
 Lys Ala Gln Val Arg Gly Phe His Val Ala Lys Arg Gln Gly Glu Leu
 340 345 350
 Val Leu Cys Trp His Gly Arg Ala Leu Val Ala Thr Ser Ala Trp Arg
 355 360 365
 Phe

<210> 120
 <211> 385
 <212> PRT
 <213> Arabidopsis thaliana

<400> 120

Ala Gln Asn Leu Leu Ser Ile Leu Ser Leu Asn Ser Ser Pro His Gly
 1 5 10 15
 Asp Ser Thr Glu Arg Leu Val His Leu Phe Thr Lys Ala Leu Ser Val
 20 25 30
 Arg Ile Asn Arg Gln Gln Gln Asp Gln Thr Ala Glu Thr Val Ala Thr
 35 40 45
 Trp Thr Thr Asn Glu Met Thr Met Ser Asn Ser Thr Val Phe Thr Ser
 50 55 60
 Ser Val Cys Lys Glu Gln Phe Leu Phe Arg Thr Lys Asn Asn Asn Ser
 65 70 75 80
 Asp Phe Glu Ser Cys Tyr Tyr Leu Trp Leu Asn Gln Leu Thr Pro Phe
 85 90 95
 Ile Arg Phe Gly His Leu Thr Ala Asn Gln Ala Ile Leu Asp Ala Thr
 100 105 110
 Glu Thr Asn Asp Asn Gly Ala Leu His Ile Leu Asp Leu Asp Ile Ser
 115 120 125
 Gln Gly Leu Gln Trp Pro Pro Leu Met Gln Ala Leu Ala Glu Arg Ser
 130 135 140
 Ser Asn Pro Ser Ser Pro Pro Pro Ser Leu Arg Ile Thr Gly Cys Gly
 145 150 155 160
 Arg Asp Val Thr Gly Leu Asn Arg Thr Gly Asp Arg Leu Thr Arg Phe
 165 170 175
 Ala Asp Ser Leu Gly Leu Gln Phe Gln Phe His Thr Leu Val Ile Val
 180 185 190
 Glu Glu Asp Leu Ala Gly Leu Leu Leu Gln Ile Arg Leu Leu Ala Leu
 195 200 205
 Ser Ala Val Gln Gly Glu Thr Ile Ala Val Asn Cys Val His Phe Leu
 210 215 220
 His Lys Ile Phe Asn Asp Asp Gly Asp Met Ile Gly His Phe Leu Ser
 225 230 235 240
 Ala Ile Lys Ser Leu Asn Ser Arg Ile Val Thr Met Ala Glu Arg Glu
 245 250 255
 Ala Asn His Gly Asp His Ser Phe Leu Asn Arg Phe Ser Glu Ala Val
 260 265 270

Asp His Tyr Met Ala Ile Phe Asp Ser Leu Glu Ala Thr Leu Pro Pro
 275 280 285
 Asn Ser Arg Glu Arg Leu Thr Leu Glu Gln Arg Trp Phe Gly Lys Glu
 290 295 300
 Ile Leu Asp Val Val Ala Ala Glu Glu Thr Glu Arg Lys Gln Arg His
 305 310 315 320
 Arg Arg Phe Glu Ile Trp Glu Glu Met Met Lys Arg Phe Gly Phe Val
 325 330 335
 Asn Val Pro Ile Gly Ser Phe Ala Leu Ser Gln Ala Lys Leu Leu Leu
 340 345 350
 Arg Leu His Tyr Pro Ser Glu Gly Tyr Asn Leu Gln Phe Leu Asn Asn
 355 360 365
 Ser Leu Phe Leu Gly Trp Gln Asn Arg Pro Leu Phe Ser Val Ser Ser
 370 375 380
 Trp
 385

 <210> 121
 <211> 369
 <212> PRT
 <213> Arabidopsis thaliana

 <400> 121

 Asn Gly Val Arg Leu Val His Ala Leu Leu Ala Cys Ala Glu Ala Val
 1 5 10 15
 Gln Lys Glu Asn Leu Thr Val Ala Glu Ala Leu Val Lys Gln Ile Gly
 20 25 30
 Phe Leu Ala Val Ser Gln Ile Gly Ala Met Arg Lys Val Ala Thr Tyr
 35 40 45
 Phe Ala Glu Ala Leu Ala Arg Arg Ile Tyr Arg Leu Ser Pro Ser Gln
 50 55 60
 Ser Pro Ile Asp His Ser Leu Ser Asp Thr Leu Gln Met His Phe Tyr
 65 70 75 80
 Glu Thr Cys Pro Tyr Leu Lys Phe Ala His Phe Thr Ala Asn Gln Ala
 85 90 95
 Ile Leu Glu Ala Phe Gln Gly Lys Lys Arg Val His Val Ile Asp Phe
 100 105 110
 Ser Met Ser Gln Gly Leu Gln Trp Pro Ala Leu Met Gln Ala Leu Ala
 115 120 125
 Leu Arg Pro Gly Gly Pro Pro Val Phe Arg Leu Thr Gly Ile Gly Pro
 130 135 140

Pro Ala Pro Asp Asn Phe Asp Tyr Leu His Glu Val Gly Cys Lys Leu
 145 150 155 160
 Ala His Leu Ala Glu Ala Ile His Val Glu Phe Glu Tyr Arg Gly Phe
 165 170 175
 Val Ala Asn Thr Leu Ala Asp Leu Asp Ala Ser Met Leu Glu Leu Arg
 180 185 190
 Pro Ser Glu Ile Glu Ser Val Ala Val Asn Ser Val Phe Glu Leu His
 195 200 205
 Lys Leu Leu Gly Arg Pro Gly Ala Ile Asp Lys Val Leu Gly Val Val
 210 215 220
 Asn Gln Ile Lys Pro Glu Ile Phe Thr Val Val Glu Gln Glu Ser Asn
 225 230 235 240
 His Asn Ser Pro Ile Phe Leu Asp Arg Phe Thr Glu Ser Leu His Tyr
 245 250 255
 Tyr Ser Thr Leu Phe Asp Ser Leu Glu Gly Val Pro Ser Gly Gln Asp
 260 265 270
 Lys Val Met Ser Glu Val Tyr Leu Gly Lys Gln Ile Cys Asn Val Val
 275 280 285
 Ala Cys Asp Gly Pro Asp Arg Val Glu Arg His Glu Thr Leu Ser Gln
 290 295 300
 Trp Arg Asn Arg Phe Gly Ser Ala Gly Phe Ala Ala Ala His Ile Gly
 305 310 315 320
 Ser Asn Ala Phe Lys Gln Ala Ser Met Leu Leu Ala Leu Phe Asn Gly
 325 330 335
 Gly Glu Gly Tyr Arg Val Glu Glu Ser Asp Gly Cys Leu Met Leu Gly
 340 345 350
 Trp His Thr Arg Pro Leu Ile Ala Thr Ser Ala Trp Lys Leu Ser Thr
 355 360 365
 Asn

<210> 122
 <211> 371
 <212> PRT
 <213> Arabidopsis thaliana

<400> 122

Asn Gly Val Arg Leu Val His Ala Leu Met Ala Cys Ala Glu Ala Ile
 1 5 10 15
 Gln Gln Asn Asn Leu Thr Leu Ala Glu Ala Leu Val Lys Gln Ile Gly
 20 25 30

Cys Leu Ala Val Ser Gln Ala Gly Ala Met Arg Lys Val Ala Thr Tyr
 35 40 45
 Phe Ala Glu Ala Leu Ala Arg Arg Ile Tyr Arg Leu Ser Pro Pro Gln
 50 55 60
 Asn Gln Ile Asp His Cys Leu Ser Asp Thr Leu Gln Met His Phe Tyr
 65 70 75 80
 Glu Thr Cys Pro Tyr Leu Lys Phe Ala His Phe Thr Ala Asn Gln Ala
 85 90 95
 Ile Leu Glu Ala Phe Glu Gly Lys Lys Arg Val His Val Ile Asp Phe
 100 105 110
 Ser Met Asn Gln Gly Leu Gln Trp Pro Ala Leu Met Gln Ala Leu Ala
 115 120 125
 Leu Arg Glu Gly Gly Pro Pro Thr Phe Arg Leu Thr Gly Ile Gly Pro
 130 135 140
 Pro Ala Pro Asp Asn Ser Asp His Leu His Glu Val Gly Cys Lys Leu
 145 150 155 160
 Ala Gln Leu Ala Glu Ala Ile His Val Glu Phe Glu Tyr Arg Gly Phe
 165 170 175
 Val Ala Asn Ser Leu Ala Asp Leu Asp Ala Ser Met Leu Glu Leu Arg
 180 185 190
 Pro Ser Asp Thr Glu Ala Val Ala Val Asn Ser Val Phe Glu Leu His
 195 200 205
 Lys Leu Leu Gly Arg Pro Gly Gly Ile Glu Lys Val Leu Gly Val Val
 210 215 220
 Lys Gln Ile Lys Pro Val Ile Phe Thr Val Val Glu Gln Glu Ser Asn
 225 230 235 240
 His Asn Gly Pro Val Phe Leu Asp Arg Phe Thr Glu Ser Leu His Tyr
 245 250 255
 Tyr Ser Thr Leu Phe Asp Ser Leu Glu Gly Val Pro Asn Ser Gln Asp
 260 265 270
 Lys Val Met Ser Glu Val Tyr Leu Gly Lys Gln Ile Cys Asn Leu Val
 275 280 285
 Ala Cys Glu Gly Pro Asp Arg Val Glu Arg His Glu Thr Leu Ser Gln
 290 295 300
 Trp Gly Asn Arg Phe Gly Ser Ser Gly Leu Ala Pro Ala His Leu Gly
 305 310 315 320
 Ser Asn Ala Phe Lys Gln Ala Ser Met Leu Leu Ser Val Phe Asn Ser
 325 330 335
 Gly Gln Gly Tyr Arg Val Glu Glu Ser Asn Gly Cys Leu Met Leu Gly

Asp Ile Met Thr Val Val Glu Gln Glu Ala Asn His Asn Gly Thr Val
 225 230 235 240
 Phe Leu Asp Arg Phe Thr Glu Ser Leu His Tyr Tyr Ser Ser Leu Phe
 245 250 255
 Asp Ser Leu Glu Gly Pro Pro Ser Gln Asp Arg Val Met Ser Glu Leu
 260 265 270
 Phe Leu Gly Arg Gln Ile Leu Asn Leu Val Ala Cys Glu Gly Glu Asp
 275 280 285
 Arg Val Glu Arg His Glu Thr Leu Asn Gln Trp Arg Asn Arg Phe Gly
 290 295 300
 Leu Gly Gly Phe Lys Pro Val Ser Ile Gly Ser Asn Ala Tyr Lys Gln
 305 310 315 320
 Ala Ser Met Leu Leu Ala Leu Tyr Ala Gly Ala Asp Gly Tyr Asn Val
 325 330 335
 Glu Glu Asn Glu Gly Cys Leu Leu Leu Gly Trp Gln Thr Arg Pro Leu
 340 345 350
 Ile Ala Thr Ser Ala Trp Arg Ile Asn Arg Val Glu
 355 360

<210> 124
 <211> 368
 <212> PRT
 <213> Arabidopsis thaliana

<400> 124

Glu Gly Leu His Leu Leu Thr Leu Leu Leu Gln Cys Ala Glu Ala Val
 1 5 10 15
 Ser Ala Asp Asn Leu Glu Glu Ala Asn Lys Leu Leu Leu Glu Ile Ser
 20 25 30
 Gln Leu Ser Thr Pro Tyr Gly Thr Ser Ala Gln Arg Val Ala Ala Tyr
 35 40 45
 Phe Ser Glu Ala Met Ser Ala Arg Leu Leu Asn Ser Cys Leu Gly Ile
 50 55 60
 Tyr Ala Ala Leu Pro Ser Arg Trp Met Pro Gln Thr His Ser Leu Lys
 65 70 75 80
 Met Val Ser Ala Phe Gln Val Phe Asn Gly Ile Ser Pro Leu Val Lys
 85 90 95
 Phe Ser His Phe Thr Ala Asn Gln Ala Ile Gln Glu Ala Phe Glu Lys
 100 105 110
 Glu Asp Ser Val His Ile Ile Asp Leu Asp Ile Met Gln Gly Leu Gln

115	120	125
Trp Pro Gly Leu Phe His Ile Leu Ala Ser Arg Pro Gly Gly Pro Pro 130 135 140		
His Val Arg Leu Thr Gly Leu Gly Thr Ser Met Glu Ala Leu Gln Ala 145 150 155 160		
Thr Gly Lys Arg Leu Ser Asp Phe Ala Asp Lys Leu Gly Leu Pro Phe 165 170 175		
Glu Phe Cys Pro Leu Ala Glu Lys Val Gly Asn Leu Asp Thr Glu Arg 180 185 190		
Leu Asn Val Arg Lys Arg Glu Ala Val Ala Val His Trp Leu Gln His 195 200 205		
Ser Leu Tyr Asp Val Thr Gly Ser Asp Ala His Thr Leu Trp Leu Leu 210 215 220		
Gln Arg Leu Ala Pro Lys Val Val Thr Val Val Glu Gln Asp Leu Ser 225 230 235 240		
His Ala Gly Ser Phe Leu Gly Arg Phe Val Glu Ala Ile His Tyr Tyr 245 250 255		
Ser Ala Leu Phe Asp Ser Leu Gly Ala Ser Tyr Gly Glu Glu Ser Glu 260 265 270		
Glu Arg His Val Val Glu Gln Gln Leu Leu Ser Lys Glu Ile Arg Asn 275 280 285		
Val Leu Ala Val Gly Gly Pro Ser Arg Ser Gly Glu Val Lys Phe Glu 290 295 300		
Ser Trp Arg Glu Lys Met Gln Gln Cys Gly Phe Lys Gly Ile Ser Leu 305 310 315 320		
Ala Gly Asn Ala Ala Thr Gln Ala Thr Leu Leu Leu Gly Met Phe Pro 325 330 335		
Ser Asp Gly Tyr Thr Leu Val Asp Asp Asn Gly Thr Leu Lys Leu Gly 340 345 350		
Trp Lys Asp Leu Ser Leu Leu Thr Ala Ser Ala Trp Thr Pro Arg Ser 355 360 365		

<210> 125

<211> 325

<212> PRT

<213> Arabidopsis thaliana

<400> 125

Ala Met Glu Gly Glu Lys Met Val His Val Ile Asp Leu Asp Ala Ser
1 5 10 15

Glu Pro Ala Gln Trp Leu Ala Leu Leu Gln Ala Phe Asn Ser Arg Pro
 20 25 30
 Glu Gly Pro Pro His Leu Arg Ile Thr Gly Val His His Gln Lys Glu
 35 40 45
 Val Leu Glu Gln Met Ala His Arg Leu Ile Glu Glu Ala Glu Lys Leu
 50 55 60
 Asp Ile Pro Phe Gln Phe Asn Pro Val Val Ser Arg Leu Asp Cys Leu
 65 70 75 80
 Asn Val Glu Gln Leu Arg Val Lys Thr Gly Glu Ala Leu Ala Val Ser
 85 90 95
 Ser Val Leu Gln Leu His Thr Phe Leu Ala Ser Asp Asp Asp Leu Met
 100 105 110
 Arg Lys Asn Cys Ala Leu Arg Phe Gln Asn Asn Pro Ser Gly Val Asp
 115 120 125
 Leu Gln Arg Val Leu Met Met Ser His Gly Ser Ala Ala Glu Ala Arg
 130 135 140
 Glu Asn Asp Met Ser Asn Asn Asn Gly Tyr Ser Pro Ser Gly Asp Ser
 145 150 155 160
 Ala Ser Ser Leu Pro Leu Pro Ser Ser Gly Arg Thr Asp Ser Phe Leu
 165 170 175
 Asn Ala Ile Trp Gly Leu Ser Pro Lys Val Met Val Val Thr Glu Gln
 180 185 190
 Asp Ser Asp His Asn Gly Ser Thr Leu Met Glu Arg Leu Leu Glu Ser
 195 200 205
 Leu Tyr Thr Tyr Ala Ala Leu Phe Asp Cys Leu Glu Thr Lys Val Pro
 210 215 220
 Arg Thr Ser Gln Asp Arg Ile Lys Val Glu Lys Met Leu Phe Gly Glu
 225 230 235 240
 Glu Ile Lys Asn Ile Ile Ser Cys Glu Gly Phe Glu Arg Arg Glu Arg
 245 250 255
 His Glu Lys Leu Glu Lys Trp Ser Gln Arg Ile Asp Leu Ala Gly Phe
 260 265 270
 Gly Asn Val Pro Leu Ser Tyr Tyr Ala Met Leu Gln Ala Arg Arg Leu
 275 280 285
 Leu Gln Gly Cys Gly Phe Asp Gly Tyr Arg Ile Lys Glu Glu Ser Gly
 290 295 300
 Cys Ala Val Ile Cys Trp Gln Asp Arg Pro Leu Tyr Ser Val Ser Ala
 305 310 315 320
 Trp Arg Cys Arg Lys

<210> 126
 <211> 248
 <212> PRT
 <213> Arabidopsis thaliana

<400> 126

Leu Ala Glu Phe Val Asp Leu Thr Pro Trp His Arg Phe Gly Phe Ile
 1 5 10 15
 Ala Ala Asn Ala Ala Ile Leu Asp Ala Val Glu Gly Tyr Ser Ser Val
 20 25 30
 His Ile Val Asp Leu Ser Leu Thr His Cys Met Gln Ile Pro Thr Leu
 35 40 45
 Ile Asp Ser Met Ala Asn Lys Leu His Lys Lys Pro Pro Pro Leu Leu
 50 55 60
 Lys Leu Thr Val Ile Ala Ser Asp Ala Glu Phe His Pro Pro Pro Leu
 65 70 75 80
 Leu Gly Ile Ser Tyr Glu Glu Leu Gly Ser Lys Leu Val Asn Phe Ala
 85 90 95
 Thr Thr Arg Asn Val Ala Met Glu Phe Arg Ile Ile Ser Ser Ser Tyr
 100 105 110
 Ser Asp Gly Leu Ser Ser Leu Ile Glu Gln Leu Arg Ile Asp Pro Phe
 115 120 125
 Val Phe Asn Glu Ala Leu Val Val Asn Cys His Met Met Leu His Tyr
 130 135 140
 Ile Pro Asp Glu Ile Leu Thr Ser Asn Leu Arg Ser Val Phe Leu Lys
 145 150 155 160
 Glu Leu Arg Asp Leu Asn Pro Thr Ile Val Thr Leu Ile Asp Glu Asp
 165 170 175
 Ser Asp Phe Thr Ser Thr Asn Val Glu Arg Leu Glu Pro Phe Thr Gly
 180 185 190
 Val Gly Phe Gly Glu Thr Ala Met Thr Glu Val Lys Thr Met Leu Glu
 195 200 205
 Glu His Ala Thr Gly Trp Gly Met Lys Lys Asp Val Asp Asp Asp Asn
 210 215 220
 Asp Val Glu Arg Phe Val Leu Thr Trp Lys Gly His Ser Val Met Phe
 225 230 235 240
 Ala Ser Ala Trp Ala Pro Pro Asn
 245

<210> 127
 <211> 284
 <212> PRT
 <213> Arabidopsis thaliana

<400> 127

Ala	Asn	Val	Glu	Ile	Leu	Glu	Ala	Ile	Ala	Gly	Glu	Thr	Arg	Val	His
1				5					10					15	
Ile	Ile	Asp	Phe	Gln	Ile	Ala	Gln	Gly	Ser	Gln	Tyr	Met	Phe	Leu	Ile
		20					25						30		
Gln	Glu	Leu	Ala	Lys	Arg	Pro	Gly	Gly	Pro	Pro	Leu	Leu	Arg	Val	Thr
		35					40					45			
Gly	Val	Asp	Asp	Ser	Gln	Ser	Thr	Tyr	Ala	Arg	Gly	Gly	Gly	Leu	Ser
	50					55					60				
Leu	Val	Gly	Glu	Arg	Leu	Ala	Thr	Leu	Ala	Gln	Ser	Cys	Gly	Val	Pro
65					70					75					80
Phe	Glu	Phe	His	Asp	Ala	Ile	Met	Ser	Gly	Cys	Lys	Val	Gln	Arg	Glu
				85					90					95	
His	Leu	Gly	Leu	Glu	Pro	Gly	Phe	Ala	Val	Val	Val	Asn	Phe	Pro	Tyr
			100					105						110	
Val	Leu	His	His	Met	Pro	Asp	Glu	Ser	Val	Ser	Val	Glu	Lys	Tyr	Arg
		115					120					125			
Asp	Arg	Leu	Leu	His	Leu	Ile	Lys	Ser	Leu	Ser	Pro	Lys	Leu	Val	Thr
	130					135					140				
Leu	Val	Glu	Gln	Glu	Ser	Asn	Thr	Asn	Thr	Ser	Pro	Leu	Val	Ser	Arg
145					150					155					160
Phe	Val	Glu	Thr	Leu	Asp	Tyr	Tyr	Thr	Ala	Met	Phe	Glu	Ser	Ile	Asp
				165					170					175	
Ala	Ala	Arg	Pro	Arg	Asp	Asp	Lys	Gln	Arg	Ile	Ser	Ala	Glu	Gln	His
			180					185					190		
Cys	Val	Ala	Arg	Asp	Ile	Val	Asn	Met	Ile	Ala	Cys	Glu	Glu	Ser	Glu
		195					200					205			
Arg	Val	Glu	Arg	His	Glu	Val	Leu	Gly	Lys	Trp	Arg	Val	Arg	Met	Met
	210					215					220				
Met	Ala	Gly	Phe	Thr	Gly	Trp	Pro	Val	Ser	Thr	Ser	Ala	Ala	Phe	Ala
225					230					235					240
Ala	Ser	Glu	Met	Leu	Lys	Ala	Tyr	Asp	Lys	Asn	Tyr	Lys	Leu	Gly	Gly
			245						250					255	
His	Glu	Gly	Ala	Leu	Tyr	Leu	Phe	Trp	Lys	Arg	Arg	Pro	Met	Ala	Thr
			260					265					270		

Cys Ser Val Trp Lys Pro Asn Pro Asn Tyr Ile Gly
 275 280

<210> 128

<211> 294

<212> PRT

<213> Arabidopsis thaliana

<400> 128

Met His Ile Leu Tyr Glu Ala Cys Pro Tyr Phe Lys Phe Gly Tyr Glu
 1 5 10 15

Ser Ala Asn Gly Ala Ile Ala Glu Ala Val Lys Asn Glu Ser Phe Val
 20 25 30

His Ile Ile Asp Phe Gln Ile Ser Gln Gly Gly Gln Trp Val Ser Leu
 35 40 45

Ile Arg Ala Leu Gly Ala Arg Pro Gly Gly Pro Pro Asn Val Arg Ile
 50 55 60

Thr Gly Ile Asp Asp Pro Arg Ser Ser Phe Ala Arg Gln Gly Gly Leu
 65 70 75 80

Glu Leu Val Gly Gln Arg Leu Gly Lys Leu Ala Glu Met Cys Gly Val
 85 90 95

Pro Phe Glu Phe His Gly Ala Ala Leu Cys Cys Thr Glu Val Glu Ile
 100 105 110

Glu Lys Leu Gly Val Arg Asn Gly Glu Ala Leu Ala Val Asn Phe Pro
 115 120 125

Leu Val Leu His His Met Pro Asp Glu Ser Val Thr Val Glu Asn His
 130 135 140

Arg Asp Arg Leu Leu Arg Leu Val Lys His Leu Ser Pro Asn Val Val
 145 150 155 160

Thr Leu Val Glu Gln Glu Ala Asn Thr Asn Thr Ala Pro Phe Leu Pro
 165 170 175

Arg Phe Val Glu Thr Met Asn His Tyr Leu Ala Val Phe Glu Ser Ile
 180 185 190

Asp Val Lys Leu Ala Arg Asp His Lys Glu Arg Ile Asn Val Glu Gln
 195 200 205

His Cys Leu Ala Arg Glu Val Val Asn Leu Ile Ala Cys Glu Gly Val
 210 215 220

Glu Arg Glu Glu Arg His Glu Pro Leu Gly Lys Trp Arg Ser Arg Phe
 225 230 235 240

His Met Ala Gly Phe Lys Pro Tyr Pro Leu Ser Ser Tyr Val Asn Ala
 245 250 255

Thr Ile Lys Gly Leu Leu Glu Ser Tyr Ser Glu Lys Tyr Thr Leu Glu
 260 265 270

Glu Arg Asp Gly Ala Leu Tyr Leu Gly Trp Lys Asn Gln Pro Leu Ile
 275 280 285

Thr Ser Cys Ala Trp Arg
 290

<210> 129

<211> 205

<212> PRT

<213> Arabidopsis thaliana

<400> 129

Lys Lys Trp Glu Thr Ile Thr Leu Asp Glu Leu Met Ile Asn Pro Gly
 1 5 10 15

Glu Thr Thr Val Val Asn Cys Ile His Arg Leu Gln Tyr Thr Pro Asp
 20 25 30

Glu Thr Val Ser Leu Asp Ser Pro Arg Asp Thr Val Leu Lys Leu Phe
 35 40 45

Arg Asp Ile Asn Pro Asp Leu Phe Val Phe Ala Glu Ile Asn Gly Met
 50 55 60

Tyr Asn Ser Pro Phe Phe Met Thr Arg Phe Arg Glu Ala Leu Phe His
 65 70 75 80

Tyr Ser Ser Leu Phe Asp Met Phe Asp Thr Thr Ile His Ala Glu Asp
 85 90 95

Glu Tyr Lys Asn Arg Ser Leu Leu Glu Arg Glu Leu Leu Val Arg Asp
 100 105 110

Ala Met Ser Val Ile Ser Cys Glu Gly Ala Glu Arg Phe Ala Arg Pro
 115 120 125

Glu Thr Tyr Lys Gln Trp Arg Val Arg Ile Leu Arg Ala Gly Phe Lys
 130 135 140

Pro Ala Thr Ile Ser Lys Gln Ile Met Lys Glu Ala Lys Glu Ile Val
 145 150 155 160

Arg Lys Arg Tyr His Arg Asp Phe Val Ile Asp Ser Asp Asn Asn Trp
 165 170 175

Met Leu Gln Gly Trp Lys Gly Arg Val Ile Tyr Ala Phe Ser Cys Trp
 180 185 190

Lys Pro Ala Glu Lys Phe Thr Asn Asn Asn Leu Asn Ile
 195 200 205

<210> 130

<211> 158
 <212> PRT
 <213> Arabidopsis thaliana

<400> 130

Pro	Asp	Pro	Val	Gln	Ser	Asn	Lys	Leu	Leu	Asn	Thr	Val	Lys	Ala	Ile
1				5				10						15	
Lys	Pro	Ser	Ile	Val	Thr	Val	Val	Glu	Gln	Glu	Ala	Asn	His	Asn	Gly
			20					25					30		
Ile	Val	Phe	Leu	Asp	Arg	Phe	Asn	Glu	Ala	Leu	His	Tyr	Tyr	Ser	Ser
		35					40					45			
Leu	Phe	Asp	Ser	Leu	Glu	Asp	Ser	Tyr	Ser	Leu	Pro	Ser	Gln	Asp	Arg
	50					55					60				
Val	Met	Ser	Glu	Val	Tyr	Leu	Gly	Arg	Gln	Ile	Leu	Asn	Val	Val	Ala
65					70					75					80
Ala	Glu	Gly	Ser	Asp	Arg	Val	Glu	Arg	His	Glu	Thr	Ala	Ala	Gln	Trp
				85					90					95	
Arg	Ile	Arg	Met	Lys	Ser	Ala	Gly	Phe	Asp	Pro	Ile	His	Leu	Gly	Ser
			100					105						110	
Ser	Ala	Phe	Lys	Gln	Ala	Ser	Met	Leu	Leu	Ser	Leu	Tyr	Ala	Thr	Gly
		115					120					125			
Asp	Gly	Tyr	Arg	Val	Glu	Glu	Asn	Asp	Gly	Cys	Leu	Met	Ile	Gly	Trp
	130					135					140				
Gln	Thr	Arg	Pro	Leu	Ile	Thr	Thr	Ser	Ala	Trp	Lys	Leu	Ala		
145					150					155					

<210> 131
 <211> 112
 <212> PRT
 <213> Arabidopsis thaliana

<400> 131

Ser	Leu	Glu	Pro	Asn	Leu	Asp	Arg	Asp	Ser	Lys	Glu	Arg	Leu	Arg	Val
1				5					10					15	
Glu	Arg	Val	Leu	Phe	Gly	Arg	Arg	Ile	Met	Asp	Leu	Val	Arg	Ser	Asp
			20					25					30		
Asp	Asp	Asn	Asn	Lys	Pro	Gly	Thr	Arg	Phe	Gly	Leu	Met	Glu	Glu	Lys
		35					40					45			
Glu	Gln	Trp	Arg	Val	Leu	Met	Glu	Lys	Ala	Gly	Phe	Glu	Pro	Val	Lys
	50					55					60				
Pro	Ser	Asn	Tyr	Ala	Val	Ser	Gln	Ala	Lys	Leu	Leu	Leu	Trp	Asn	Tyr

65		70		75		80									
Asn	Tyr	Ser	Thr	Leu	Tyr	Ser	Leu	Val	Glu	Ser	Glu	Pro	Gly	Phe	Ile
				85					90					95	
Ser	Leu	Ala	Trp	Asn	Asn	Val	Pro	Leu	Leu	Thr	Val	Ser	Ser	Trp	Arg
			100					105					110		

<210> 132
 <211> 77
 <212> PRT
 <213> Arabidopsis thaliana

<400> 132

Ser	Ser	Val	Leu	Gln	Leu	His	Thr	Phe	Leu	Ala	Ser	Asp	Asp	Asp	Leu
1				5					10					15	
Met	Arg	Lys	Asn	Cys	Ala	Leu	Arg	Phe	His	Asn	Asn	Pro	Ser	Gly	Val
			20					25					30		
Asp	Leu	Gln	Arg	Val	Leu	Met	Met	Ser	His	Gly	Ser	Ala	Ala	Glu	Ala
		35					40					45			
Arg	Glu	Asn	Asp	Met	Ser	Asn	Asn	Asn	Gly	Tyr	Ser	Pro	Ser	Gly	Asp
	50					55					60				
Ser	Ala	Ser	Ser	Leu	Pro	Leu	Pro	Ser	Ser	Gly	Arg	Thr			
65					70					75					

<210> 133
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<220>
 <223> primer

<221> modified_base
 <222> 9, 12
 <223> n=i

<221> modified_base
 <222> 21
 <223> n=a, c, g, or t

<400> 133

cayttyacng cnaaycargc nat

23

<210> 134
 <211> 8

<212> PRT
 <213> Artificial Sequence

 <220>
 <223> sequence 133 amino acid

 <400> 134

 His Phe Thr Ala Asn Gln Ala Ile
 1 5

<210> 135
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<221> modified_base
 <222> 12
 <223> n=i

<221> modified_base
 <222> 27
 <223> n=a, c, g, or t

<400> 135

acgtctcgag tncayathat hgayttnga

29

<210> 136
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> sequence 135 amino acid

<221> SITE
 <222> (6)
 <223> Xaa=Leu or Phe

<400> 136

Val His Ile Ile Asp Xaa Asp
 1 5

<210> 137
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<221> modified_base
<222> 3,12
<223> n=i

<221> modified_base
<222> 18
<223> n=a, c, g, or t

<400> 137

ytncartgyg cngargcngt

20

<210> 138
<211> 7
<212> PRT
<213> Artificial Sequence

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Leu Gln Cys Ala Glu Ala Val
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23

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Ala Phe Gln Val Phe Asn Gly Ile
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B1
concluded
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Gln Trp Pro Gly Leu Phe His Ile

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5